

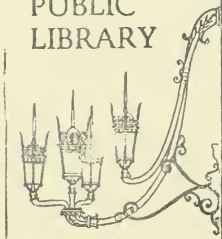
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Project Proponent:
Massachusetts
Port Authority

Prepared by:
Skidmore, Owings
& Merrill

Vanasse/Hangen
Associates, Inc.

Tech Environmental
September 1982

Final Environmental
Impact Report

Commonwealth Pier Five Redevelopment

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Final Environmental
Impact Report

**Commonwealth
Pier Five
Redevelopment**

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massport



massport

99 HIGH ST. BOSTON, MASSACHUSETTS 02110 (617) 482-2930 TELEX 94-0365

September 14, 1982

Secretary John A. Bewick
Executive Office of Environmental Affairs
100 Cambridge Street
Leverett Saltonstall Building - 20th Floor
Boston, MA 02202

Dear Secretary Bewick:

It is our pleasure to transmit to your office for review, the Final Environmental Impact Report (FEIR) for the redevelopment of Commonwealth Pier Five.

As you know, Massport initiated the environmental review process for this project over a year ago, early in our efforts to redevelop the Pier and prior to the designation of a specific developer for the site. It was our goal to undertake a full analysis of the impacts of a real development proposal, early enough for the results of that analysis to be incorporated into the final design and implementation of a real project. Since the designation of FMR Properties, Inc., to develop BOSCOM at Commonwealth Pier BOSCOM staff and consultants have worked with Massport staff and consultants to achieve this aim.

The result is an environmental impact report which represents our joint effort and our joint commitment to develop a project at Commonwealth Pier that is not only financially viable but sensitive to the environment in which it will be a part. Several of our commitments bear highlighting here:

- . Maritime uses will be expanded. Modern terminal facilities and berths will be constructed, capable of handling increased numbers of cruise ships as well as more of the smaller vessels that service commuters, tourists and other visitors to nearby New England ports. The facilities will be integrated with those at BOSCOM so that both can function in an efficient manner.
- . The general public will have access to the views from the North apron of Commonwealth Pier for the first time. These spectacular views of the inner harbor and Boston skyline will be accessed by a 1,200 foot long pedestrian way. Pedestrian amenities will be integrated with the facilities planned for BOSCOM users.



Secretary Bewick
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September 14, 1982

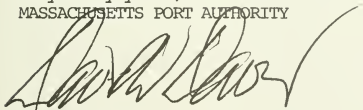
- . The infrastructure in the area will be improved. Most notably the old sewer line in the area will be replaced by a new line capable of servicing not only the anticipated needs of BOSCOM but those of other developments planned for the South Boston peninsula as well. This work is moving forward with close coordination among Massport, BOSCOM and Boston Water and Sewer Commission staff.
- . The historic character of Commonwealth Pier will be preserved. Rehabilitation of the Pier will observe the Secretary of the Interior's Standards for Historic Rehabilitation, insuring that this Boston landmark will survive into the next century.

These are just a few of the joint commitments of Massport and BOSCOM contained in this Final Environmental Impact Report.

It is our hope that review of this document can occur expeditiously. Your staff and that of other agencies of the Commonwealth have been in close communication with us as the final document has been prepared. Massport staff and consultants and those of BOSCOM are prepared to discuss the report in detail with you or your representatives, if this would prove helpful.

We look forward to the successful conclusion of the environmental review process and to the start of construction of BOSCOM at Commonwealth Pier, shortly thereafter.

Very truly yours,
MASSACHUSETTS PORT AUTHORITY



David W. Davis
Executive Director

FMR PROPERTIES, INC.



G. Daniel Prigmore
President

DWD:GDP/nkd



Preface

Located on the South Boston waterfront, Commonwealth Pier Five was constructed in 1914 as part of an effort to revive Boston's maritime cargo activities. The Pier was built to handle break-bulk cargo and as a docking facility for passenger cruise ships. Its structure reflects this historic use: two 1000' long, covered sheds stretch the length of the Pier, surrounded by a 20 foot wide pier apron capable of supporting heavy equipment. The Pier entrance (and former administrative offices) consists of a handsome two-level Headhouse in a Beaux Art architectural style. A central shed was added later for additional Pier space.

Recent changes in cargo transport technology, specifically the use of containerized cargo, have made Commonwealth Pier obsolete for maritime cargo shipping. It is not practicable, for financial and technical reasons, to convert the Pier into a facility that could accommodate containerized cargo; Massport has made investments in containerized cargo facilities elsewhere in the South Boston waterfront area. Only one of the original maritime uses of the Pier--cruise ship docking--remains active. Commonwealth Pier has lost its primary original function, and today, 75% of the Pier is vacant. The Pier structure is deteriorating and badly in need of repair. The remaining uses of the Pier, including cruise ship and excursion boat docking, warehousing, and an exhibition hall, will have to be discontinued unless substantial investments in repairs are forthcoming, but these existing uses do not generate revenues sufficient to justify those investments.

Commonwealth Pier is owned and operated by the Massachusetts Port Authority (Massport). In recent years, Massport has undertaken several studies to determine the best course of action for the Pier. The condition of the Pier's physical structure and the capacity of the existing utilities in the area were examined, and the feasibility of several reuse options were studied. Based on this information, the decision was made to renovate and redevelop Commonwealth Pier to support higher intensity uses. After an extensive solicitation and selection process, the FMR Properties, Inc. (FMR) proposal was selected. FMR is a Boston based company and is part of the Fidelity organization. FMR has been involved in the successful renovation and redevelopment of a large number of older buildings and historic structures in Boston over the past few years.

The proposal submitted by FMR contemplates the rehabilitation and redevelopment of Commonwealth Pier for use as a high technology trade mart of international marketing importance. This trade mart will be called BOSCOM. The need for a marketing center for high technology products has been demonstrated. Given the importance and leadership of the high technology industry located in the greater Boston area, Boston represents a strong and logical choice for such a trade mart. BOSCOM will include permanent and temporary exhibition space for computer and other high technology products, as well as conference and office space, parking, and restaurants. This redevelopment plan also includes enhancement of existing maritime uses at the Pier. This first phase of the project is scheduled to open in 1983-1984. A later phase includes the addition of a hotel.

As a major attraction and magnet for the international high technology industry, BOSCOM will be of critical importance in maintaining Boston and the New England region's pre-eminence in the high technology field. BOSCOM will also represent a crucial step in the economic revitalization and reuse of a large section of the South Boston waterfront.

This Final Environmental Impact Report (EIR) is submitted as partial fulfillment of the requirements of the Massachusetts Environmental Policy Act (MEPA) for the redevelopment of Commonwealth Pier. The contents of this EIR are based upon MEPA guidelines, the Draft EIR and the Certificate of the Secretary of the Executive Office of Environmental Affairs, August 16, 1982.

This EIR has been prepared for Massport, the project proponent. Massport, FMR Properties, Inc., and the authors wish to thank the numerous state and city agency representatives, developers, property owners, members of the South Boston community, and other concerned parties for their continuing and constructive comments on this project.

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TECHNICAL APPENDIX

Support information for the traffic and air quality analysis is available on request as a Technical Appendix to this Final EIR. Included are:

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Appendix 1: Transportation Analysis (previously published as part of the Draft EIR document)	
Appendix 2: Transportation Data	
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Appendix 3: Calculation of Motor Vehicle Emission Rates for Carbon Monoxide	
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Summary

COMMONWEALTH PIER FIVE MIXED-USE DEVELOPMENT (BOEA #4133)

This Environmental Impact Report discusses three alternative uses for Commonwealth Pier, a Massport property located on the South Boston waterfront, in Suffolk County, Boston.

Alternative #1 - No-Build. This alternative would leave the present structures and uses as they are. The Pier structure consists of three two-story parallel sheds joined together and surrounded by a 20 foot apron, and a four-floor Headhouse. Presently, the structure contains 850,000 square feet which is largely vacant with the exception of limited warehousing, and intermittent exhibition and cruise ship docking uses. The structure is in deteriorating condition, and because the building is under-utilized, Commonwealth Pier is not economically self-sustaining. If this alternative is chosen, the deterioration of the Pier substructure and shed roofs will continue, eventually precluding the utilization of the property for even its present low level of activity.

Alternative #2 - Preliminary Development Concept. This proposal was developed by Massport as an illustration of a potential high intensity mixed-use redevelopment of Commonwealth Pier. A prospectus based on the Preliminary Development Concept was used by Massport as part of a program to solicit responses from prospective developers. The Preliminary Development Concept was also used to characterize the project in the Environmental Notification Form (ENF). As part of this high-intensity redevelopment concept, it was assumed that the Headhouse and shed structures would be renovated, with limited demolition of part of the central shed, and an office tower would be constructed at the north end of the Pier. The Pier would house a mixed-use development, including office use, high technology marketing and exhibition space, retail, parking, hotel, and restaurants.

Alternative #3 - BOSCOM. This alternative calls for the long-term lease of Commonwealth Pier to FMR Properties, Inc. for rehabilitation and subsequent reuse as a marketing center for the computer and communications equipment industry. The project, BOSCOM (the Boston Computer and Communications Market Center), will include exhibition space, display space for computer and other high technology products, conference facilities, offices, a hotel and restaurants. The BOSCOM project includes construction of a hotel rather than an office tower on the Pier's northern end, with a smaller, more stepped down massing than the Preliminary Development Concept. The historic Headhouse and shed structures will be

renovated, with limited demolition of part of the central shed. Provision will be made for compatible water-dependent uses: cruise ship and excursion boat docking facilities will be upgraded, and Massport will retain control of the apron and will encourage maritime activities. The BOSCOM project provides for greater maritime activities and public access to the waterfront than the other Alternatives.

BOSCOM is the preferred alternative, and is in keeping with Massport's policy of revitalizing obsolete piers on its waterfront property. In conjunction with Massport's investments in new cargo terminals elsewhere on the waterfront, the redevelopment and reuse of Commonwealth Pier is part of Massport's efforts to promote commerce and job-creating activities in the region.

PROPONENT

Massachusetts Port Authority (Massport)

EIR STATUS

Final EIR, September 1982

SUMMARY OF ENVIRONMENTAL
ISSUES

Please refer to Chapter IV for more information on these impacts. For Transportation, please see Appendix 1 for additional discussion.

Transportation

The expected redevelopment of the South Boston waterfront and adjacent properties will substantially increase vehicle activity in that area by 1987. The forecast year 1987 was used for the transportation and other impact analyses because it provides a more practical baseline against which to assess project alternatives. In 1987, much of the planned South Boston development will be fully operational, and a more realistic "snapshot" of operations at BOSCOM can be assessed. The use of 1987 as a forecast year creates a series of more conservative assumptions and criteria for impact assessment, and this change has been approved by the MEPA staff. Of the three alternatives studied in this report, only the No-Build Alternative would not contribute to 1987 levels of congestion in this area. Both the Preliminary Development Concept and BOSCOM Alternatives would add to congestion, but in both cases, project-related traffic increments are small when compared to baseline (1987) conditions caused by other South Boston waterfront redevelopment initiatives. Under any of the three

alternatives, drivers along the major arterial roadways serving the study area would experience peak period congestion. Of the two build alternatives, new traffic generated by the Preliminary Development Concept (estimated at 5,768 daily auto trips) is higher than that estimated for the BOSCOM project (2,350 daily auto trips).

A total of 14 key intersections were identified and studied to determine the traffic impacts of the three alternatives under morning and afternoon peak hour conditions. Intersection level of service decreases from the 1987 No-Build Alternative with the Preliminary Development Concept would occur at the intersections of Northern Avenue and Atlantic Avenue, Congress Street and Atlantic Avenue, Broadway and Albany Street, West Broadway and D Street, Old Colony and D Street in the morning peak hours; and Viaduct Street and Summer Street, West Broadway and A Street and Broadway and Albany Street during afternoon peak hours. The Summer Street/Atlantic Avenue intersection in Dewey Square will operate under capacity conditions during the morning and afternoon peak hours. Both the Northern Avenue intersection and the Summer Street intersection with Atlantic Avenue would operate at capacity during the afternoon peak hours. The BOSCOM project will also cause some decrease in the level of service at some intersections, but will have less impact than the Preliminary Development Concept. Level of service decreases due to BOSCOM would be expected at Congress Street and Atlantic Avenue, and Broadway and Albany Street in the morning peak hours, and at West Broadway and A Street in the afternoon peak hours. Again, during the afternoon peak hour, capacity conditions would occur at the three intersections along Atlantic Avenue: Summer Street, Congress Street, and Northern Avenue; and at the Broadway Bridge/Frontage Road intersection. During the morning peak hour, only the Broadway Bridge/Frontage Road intersection will operate at capacity under the BOSCOM Alternative.

The most significant and visible impacts would most likely occur at existing Fort Point Channel crossings and adjacent intersections. To reduce the impact of the Commonwealth Pier project and to help the transportation system accommodate additional background traffic, several mitigating measures have been identified. Major mitigating measures include the operation of shuttle bus service between the major downtown Boston hotels and Commonwealth Pier to serve BOSCOM visitors; development of a parking pricing policy to discourage automobile usage; improvements to MBTA bus routes now serving the

site; and intersection improvements at the Congress Street/Atlantic Avenue intersection.

Air Quality

A new air quality analysis was completed for the Final EIR using the EPA Indirect Source Guideline technique to predict concentrations at selected intersections, supplemented by a set of assumptions specified by DEOE. Carbon Monoxide (CO) levels were estimated for all project alternatives for existing and future conditions, including future development on the South Boston waterfront area by 1987. The results of the study indicate the proposed redevelopment project will not significantly affect the attainment or maintenance of state and Federal standards for CO. However, violations of 1-hour and 8-hour standards are predicted to occur in 1987 at intersections near the Central Artery, even with the No-Build Alternative, and several recommendations for mitigation measures are analyzed here.

Historic Significance

The No-Build Alternative would not change the historic Headhouse or shed buildings, but neither would it prevent the continued deterioration of those buildings.

The Preliminary Development Concept includes plans to renovate the Headhouse and shed structures. However, according to a memorandum of May, 1981 from the Heritage Conservation and Recreation Service of the Department of Interior, the design does not conform to the Secretary of the Interior's "Standards for Rehabilitation" in that the height and bulk of the proposed office tower would be incompatible with the size, scale, and character of the Pier. The height of the proposed office tower and substantial changes in the elevations of the exterior shed walls would change the distinctive qualities of the Pier.

The BOSCOM project calls for the construction of a lower building at the north end of the Pier than does the Preliminary Development Concept, and would include rehabilitation of the Headhouse and shed structures. FMR Properties, Inc. will seek a certification of historic rehabilitation for the BOSCOM project. The design objective is to conform with the Secretary of the Interior's Standards for Rehabilitation of historic structures.

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Maritime Activities

Commonwealth Pier was originally built to handle break-bulk cargo shipped in crates and barrels, and to accommodate cruise ship usage. With the advent of containerization of cargo in the 1950's, the break-bulk method of cargo-shipping declined to the extent that little maritime cargo is now handled at the Pier. Given the physical design of the Pier structure, conversion to a containerized cargo facility would not be feasible from an economic or a design standpoint. Cruise ship operations still occur at the Pier; however, the facilities have deteriorated over the years.

The No-Build Alternative would have no immediate impact on existing maritime activities at Commonwealth Pier. However, the continued deterioration of the Pier structure and the shed roof would erode the Pier's usefulness for maritime activities in the future.

The Preliminary Development Concept would also continue the present level of maritime use which consists primarily of cruise ship and excursion boat docking. This alternative would generate revenues needed to make repairs necessary to sustain these uses.

The BOSCOM project calls for the rehabilitation and expansion of the Pier's ship docking facilities. Plans include construction of modern cruise ship docking facilities and moving cruise ship docking activities from the west (downtown) side to the east side of the Pier. Berthing facilities would be expanded on the west side for excursion boats and, potentially, commuter boats and water taxis. Space will be provided inside the structure for a cruise ship terminal on two levels of the east shed, and for office terminal facilities for users of the west apron berthing area.

At present, Corenco, a company which processes tallow, is located across Northern Avenue from Commonwealth Pier, and uses a pipe to transport its product to freighters that dock at the Pier. Under both Build Alternatives (the Preliminary Development Concept and the BOSCOM project) Corenco would relocate to another site in the waterfront area. Corenco's lease expires in 1982. Massport has offered to lease Corenco an alternative site.

Foreign Trade Zone

Under the No-Build alternative, the operation of the Foreign Trade Zone (FTZ) on Commonwealth Pier (40,000 square feet of warehousing) would continue in the short-term. However, in the long-term, the deterioration of the Pier structure and shed roof may cause this operation to be discontinued.

Both the Preliminary Development Concept and the BOSCOM project include the option of continuing the use of the FTZ on Commonwealth Pier. FMR has expressed interest in maintaining the FTZ in connection with its computer trade mart activities. However, use of the FTZ at the Pier is not a critical component of BOSCOM plans. Massport will retain its FTZ license and apply it elsewhere in the region.

Massport's license to operate an FTZ also includes Commonwealth Flats, a building in the Boston Marine Industrial Park and a subzone in Fall River. Additional sites at the Quincy Shipyard and Logan Airport are currently being considered.

Public Access

At present, the public is largely restricted from most areas of Commonwealth Pier for reasons of public safety and site security. Cruise ship and excursion boat patrons have limited access to boarding areas. During shows in the exhibition hall, the public is admitted to a small section of the Pier. Access to the apron is restricted due to safety considerations. This situation would continue under the No-Build alternative, until the time when deterioration of the Pier and shed structures would cause the discontinuation of the Pier's present functions.

The Preliminary Development Concept allows access to the Pier for patrons of the cruise ships and excursion boats only.

The BOSCOM project includes plans to increase public access to the Pier, and plans to improve pedestrian amenities along Northern Avenue. Massport will retain control of the Pier apron, and has committed to encouraging public access along the west apron and the northern apron of the Pier allowing views of the Harbor, airport, downtown, and the adjacent Fish Pier activities. Massport also has plans to improve the

streetscape along Northern Avenue. These changes constitute a significant improvement in public access to this area of the Boston waterfront.

Utilities

Utilities supplied to Commonwealth Pier, including water, sewerage, storm drainage and electricity, are adequate for its present uses. Therefore, no changes would be necessary if the No-Build alternative is chosen.

The sewer collection system which serves Commonwealth Pier will require improvements as part of either of the Build Alternatives--the Preliminary Design Concept or the BOSCOM project. Massport has plans to rebuild the sewer system presently serving its Northern Avenue properties, and is committed to working with the Boston Water and Sewer Commission to improve sewer facilities for Commonwealth Pier over the next twenty-four months in conjunction with the BOSCOM project. Even without new uses at Commonwealth Pier, other development in the South Boston waterfront area will necessitate improvements in the sewer collection system. Other localized improvements in the electrical service will be considered as the project proceeds, and these will be coordinated with Boston Edison.

The No-Build Alternative would not modify the Pier's present storm drainage system, which discharges into Boston Harbor. While either of the proposed Build Alternatives would result in minor modifications to the Pier's present drainage patterns, there would be little effect on the volume of discharge. As part of the BOSCOM project, Massport will upgrade storm drainage from the site, adding grease and oil traps to the drainage system in order to reduce the discharge of polluted runoff into the harbor.

Noise

Commonwealth Pier is located in an area effected by aircraft noise from Logan International Airport--specifically, jet departures on Runway 27. Noise contours developed according to EPA procedures show the site in the 70 Ldn (Day/Night average sound levels) contour. This requires noise attenuation for the uses proposed within the BOSCOM complex. BOSCOM has retained Bolt Beranek and Newman, Inc. to assist in the development of noise reduction goals, and to recommend materials which can achieve the needed reduction. This

reduction will satisfy FAA guidelines for compatible land use.

Airspace

The location and height of the BOSCOM facility, including the proposed hotel, is not within the criteria which require FAA review for potential conflict with airport operations. However, Massport has filed a notice with FAA and has requested a ruling to assure that no conflict with present or future operations will occur.

Construction

Several short-term impacts may result from construction of BOSCOM. During construction, the increased number of trucks and heavy equipment operations in the area of Commonwealth Pier may cause some congestion. Roads in the area are sufficiently wide to accommodate these vehicles without road closures, although individual lanes may be temporarily obstructed during the course of the project. Construction will also cause emissions of air pollutants, especially particulates emitted during the limited demolition of the central shed. Measures to mitigate this include wetting exposed areas and covering dust producing materials during demolition, and during the transport of demolition materials.

It is expected that construction will have only minor effects on maritime activities at the Pier. Cruise ship and excursion boat docking may be relocated during construction, and some scheduling conflicts may arise.

Public access will not be decreased from current limitations during construction, although the increased noise, heavy equipment traffic and dust may discourage pedestrian activities in the immediate area of the construction site. However, these will be short-term effects.

Cooperation will be necessary between the contractor, the developer, Massport, and the various public utility companies, including Boston Gas, Boston Edison, and the Boston Water and Sewer Commission, to avoid or minimize short-term interruptions in service to the area during service hook-ups to Commonwealth Pier. Disposal of rubble and other construction related waste material will be the responsibility of the contractor. The contractor will be required to submit a designated disposal site where these materials will be taken.

MODIFICATIONS TO DRAFT EIR
IN RESPONSE TO SECRETARY'S
CERTIFICATE

Additions to and modifications of the Draft EIR were made in order for the Final EIR to comply with the Certificate of the Secretary of the Executive Office of Environmental Affairs (EOEA).

Traffic -- In response to questions raised by MEPA, a new section on Transportation was added at the end of the Transportation Analysis section of Chapter IV. (See pages 80 to 96.)

Air Quality -- A new air quality analysis was completed and is reflected in the section in Chapter IV on Air Quality. (See pages 97 to 112.)

Public Access -- more detailed commitment by Massport to provide Public Access to Commonwealth Pier is presented in the Public Access section of Chapter IV. (See pages 133 to 140.)

Hotel -- An expanded discussion of the BOSCOM Development Program, including hotel and restaurant facilities, can be found in Chapter III - Description of Alternatives, Alternative 3: BOSCOM. (See pages 32 to 52.)

Maritime Use; Foreign Trade Zone -- Modifications to the Draft EIR can be found in the sections on Maritime Use, Foreign Trade Zone and Historic Significance in Chapter IV.

Airspace; Noise -- New sections on airspace and noise were added to Chapter IV. (See pages 163 to 166 and 153 to 162, respectively.)

Other Modifications from the Draft EIR -- Chapter VI - Comments by Reviewers, contains copies of letters sent to MEPA in reference to the Draft EIR, and response to those letters.

Minor modifications and edits were performed in: Chapter II - Project Description and Context, and Chapter IV - Environmental Issues, Public Utilities section.

Project Description and Context

PROJECT DESCRIPTION

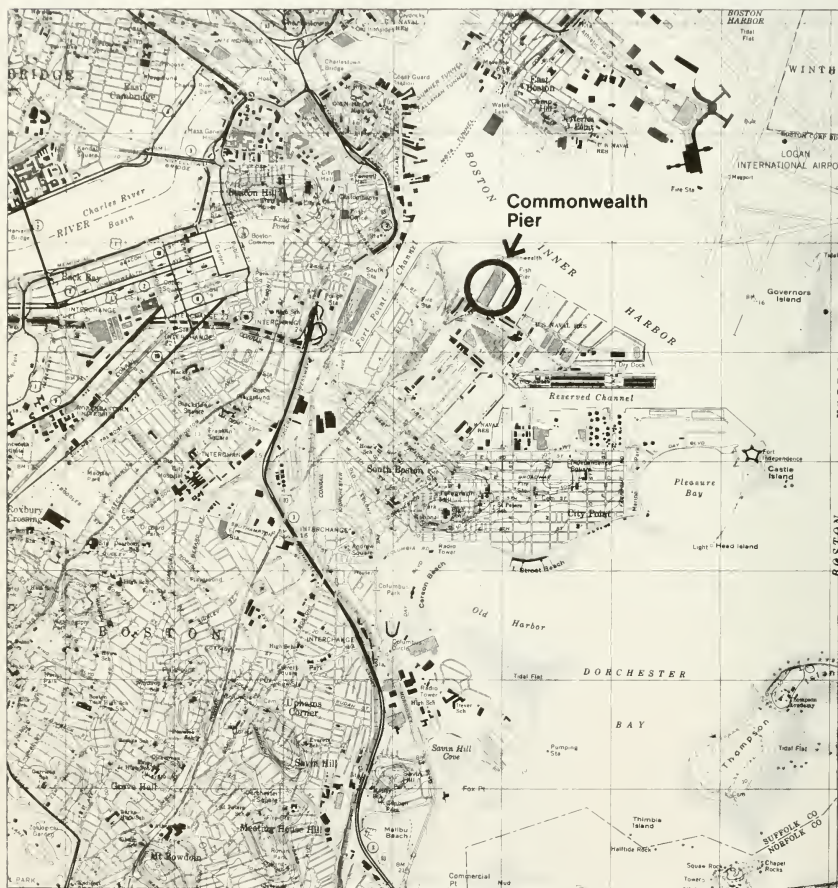
Commonwealth Pier Five is a Massport property located on Boston Harbor at the South Boston waterfront, the fifth pier along the South Boston waterfront from the mouth of the Fort Point Channel (see Figures II-1 and II-2). Built in 1914, it consists of a Headhouse of 53,000 square feet and three sheds of 797,000 square feet. The building is presently underutilized and deteriorating. The Pier itself is in fair condition, although it requires some structural repairs. Given renovation, the Pier could sustain higher levels of economic utilization than at present.

Commonwealth Pier was originally built to handle break-bulk shipping and cruise ship operations. Break-bulk shipping has been replaced by containerized cargo in recent years, so that the Pier's freight handling facilities are outdated, and long distance passenger travel by water has also declined. Massport operates container terminals at Castle Island and in Charlestown, and has plans to expand the capacity to handle containerized cargo elsewhere in South Boston. Massport has determined that it is not feasible to convert Commonwealth Pier to a container terminal, nor is the Pier appropriate for handling the maritime cargos that are forecasted for Boston Harbor. Therefore, the Pier has no marketable use as a maritime freight handling facility. However, the Pier will continue to serve passenger ships, and expanded facilities are planned to serve cruise vessels, excursion boats, and possibly a water taxi.

The proposed action, BOSCOM, consists of the long-term lease of the Pier to FMR for subsequent rehabilitation and reuse. The historic Headhouse and most of the enclosed sheds would be restored for use as a trade-mart and exhibition area for the high technology computer industry. Also planned for the Pier are support uses for the trade mart including conference facilities, parking, restaurants, office space and a hotel. In addition to the renovation of the existing buildings, limited demolition of portions of the central shed would take place and a mid-rise building will be constructed on the northern end of the Pier--a 500-room hotel. Cruise ship operations will be accommodated in new docking and passenger handling facilities at the Pier. Massport will continue to maintain and operate the Pier apron to insure that maritime activity continues.

Figure II-1

USGS Location Plan



Aerial View of Commonwealth Pier South Boston, and Downtown Boston

Commonwealth Pier is located on the South Boston waterfront near downtown as shown in this aerial photo looking west. The Pier occupies the lower quarter of the photo with Northern Avenue running from the Headhouse (bottom left) past piers 1-4 to the Fort Point Channel (upper middle of photo). Although much of this part of the waterfront area is currently vacant and used for parking, new development is being considered for significant portions of this area.



© Aerial Photos of New England

The proposed design for the Pier's reuse includes a market center with up to 450,000 square feet of permanent vendor showrooms, up to 200,000 square feet of conference/convention facilities, and 350,000 square feet of space for support facilities within the existing building. The building will be renovated into three and a half levels of floor space--one full additional floor and one mezzanine added to the current two floors--totaling 1.1 million square feet, at a cost of \$84 million. The new construction for the hotel will cost an additional \$50 million.

Construction is scheduled to begin in January of 1983, and a partial opening of BOSCOM is scheduled for late Fall of 1983. The entire project will be open by July of 1984, with the exception of the mid-rise hotel building. The demolition and foundation work which precedes the construction of the hotel will be completed by the opening of BOSCOM in 1984, and the lower two levels of the hotel structure will be complete in order to allow circulation between the existing shed structures. Construction of the hotel structure is expected to begin in 1984.

Project Benefits

The BOSCOM project will be an economic boost to Boston and the New England region. Boston is the center of the East Coast's high technology industry, with over 40% of the U.S./Canadian market for high technology within two hours travel time, and the world's largest installed computer base within 400 miles. Boston is also a world center for higher learning, with over 100 universities and colleges--"a fertile breeding ground for technological innovation and its application". As a high technology market-center of international importance, BOSCOM will strengthen Boston and the region's pre-eminence in the high technology industry. In addition, BOSCOM will generate revenue from visitors, and will provide employment opportunities within the city during construction and project operations.

Redeveloping Commonwealth Pier for use as a trade mart for the high technology industry will benefit Massport and the South Boston waterfront area. Without substantial investment in renovation, the Pier's structure will continue to deteriorate, and its usefulness for maritime and non-maritime activities will diminish. In contrast, the proposed development would create a revenue-generating property at Commonwealth

Pier, to the benefit of Massport, and it would provide impetus to the economic revitalization of the South Boston waterfront area. Also, the project would require improvements in infrastructure and amenities in the vicinity of the Pier, improvements Massport is committed to make or assist with as part of BOSCOM. These improvements will enhance the value of adjacent properties as well.

The BOSCOM project includes the expansion of the Pier's current maritime usage. Cruise ship docking may be moved from the west to the east side, and docking facilities will be expanded to serve cruise ships, excursion boats, and possibly, water taxis.

The following list summarizes the benefits of BOSCOM to Boston and the New England region:

- o Phase I construction contracts estimated at \$85 million creating 1,500-2,000 construction jobs.
- o Creation of 300-500 new jobs associated with BOSCOM operations.
- o Payment of leasehold taxes to the City of Boston by the developer.
- o Increased revenue for Massport, a public Authority.
- o Establishes Boston as the international marketing center for computers and other high technology industries.
- o Enhancement of property values and development potential in South Boston.
- o Improvement of South Boston utility infrastructure.
- o Expansion of maritime use of the Pier, including modernization of cruise ship docking facilities.
- o Significant improvement in public access to the South Boston waterfront.
- o Design and construction of streetscape improvements to Northern Avenue by Massport to improve the pedestrian environment.

- o Rehabilitation and reuse of one of Boston's important historic and architectural resources. Commonwealth Pier is listed on the National Register of Historic Places.

CONTEXT

Commonwealth Pier is part of approximately 600 acres of waterfront land in the northern section of South Boston (See Figure II-3). Boston Harbor is the northern and eastern boundary; First Street and the U.S. Reserved Channel are the southern boundaries; and the Fort Point Channel is the western border. Industrial, warehousing, truck and rail distribution, institutional and commercial land-uses predominate (see Figure II-4). There are several large vacant or near-vacant parcels. As real estate values in Boston continue to rise, this large area of under-utilized property in close proximity to downtown Boston has experienced substantial land development pressures. In some sections of the Fort Point Channel area, vacant manufacturing and warehouse buildings are being converted to residential and office use. Commercial and industrial reuse of existing buildings is occurring on the Boston Fish Pier and in other areas.

For the purpose of evaluating the existing and potential development in the vicinity of Commonwealth Pier, the South Boston waterfront area was divided into 10 areas of similar land use and density characteristics, as shown in Figure II-3. The development potential for each area was determined based on discussions with City of Boston officials and area property owners and developers, and estimates of overall development trends in the study area were made. The interviews were originally conducted during the period October-December, 1981. Follow-up discussions have been held since that time as new information became available, or as questions concerning future development arose.

This analysis was based on a forecast year of 1987. While this is at variance with the Scoping Report which used 1985 as a forecast year, it provides a more practical baseline against which to assess project alternatives. In 1985, little of the development which has been announced for the area will be fully operational. By 1987, the redevelopment of the area will have proceeded further, and a more realistic "snapshot" of operations at BOSCOM can be assessed. The use of 1987 as a forecast year creates a series of more conservative assumptions and criteria against which the Alternatives

can be tested. This change has been discussed with and approved by MEPA staff.

The redevelopment and reuse scenarios for each subarea are summarized below.

Area 1 consists of Massport properties: Commonwealth Pier, Boston Fish Pier and Commonwealth Flats; and houses several businesses, including restaurants, warehousing, fish processing plants, a tallow holding facility, parking, and retailers. These uses will all continue in the immediate short term, and some additional office use is planned for the Boston Fish Pier. BOSCOM, the major mixed-use redevelopment project proposed for Commonwealth Pier, and the subject of this Environmental Impact Report, is included in this area.

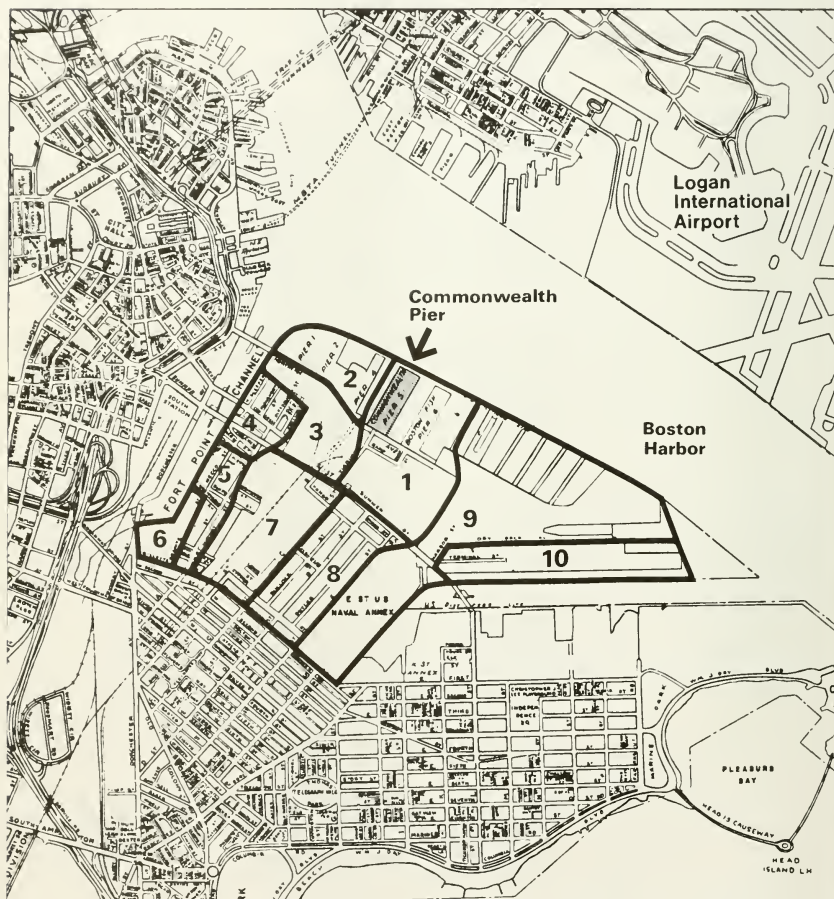
Area 2 consists of Piers 1 through 4. It currently includes a large restaurant with parking on Pier 4, and parking on Piers 1-3. A high density, mixed-use residential and commercial development of up to 3.6 million square feet has been announced for this area. The proposed redevelopment includes a 1,000 room hotel, condominiums, retail space, and parking.

Area 3, a property formerly owned by the Penn Central Railroad, is currently a surface parking lot. The likely long term scenario for this area is a new, mixed-use commercial and industrial-related development of between 2 and 4 million square feet, to be constructed sometime before the year 2000.

Areas 4 and 5 include the Boston Wharf Company buildings of roughly 4.3 million square feet of built space. More than half of this space is used for warehousing and industrial-related activities. Several buildings have recently been converted to loft apartments and condominiums. The rate at which this type of conversion continues in the next 5 years will depend on the perceived demand for such units.

New office development will also respond to Boston and regional market demands. Ultimately, areas 4 and 5 could be developed into a mixed-use (residential, office, industrial) complex of as much as 5-6 million total square feet.

Potential Development Areas in South Boston



1-10

Subareas studied

0 1/4 1/2 1 mile

Area 6 has predominantly industrial-related land-uses, dominated by the Gillette Company. This area is approximately 4 million built square feet. Land use is not likely to change significantly over the next 10-20 years.

Area 7, former Penn Central Railroad property, is currently used for parking, transportation (some rail service remains) and distribution. These uses are likely to continue over the next 5 to 10 years.

Area 8 is composed of a mix of office, commercial, industrial and storage buildings under various ownership. No substantial development is expected in the area over the next 10 years, although its long term development potential might be significant.

Areas 9 and 10 are former military bases. Some parts of these areas are now under the ownership of the Boston Marine Industrial Park or Massport. Other parts of these areas will soon be transferred to those entities. The principal uses are low density industrial and storage. These uses will continue to dominate the area over the next 20 years, with some expansion of manufacturing, ship cargo handling facilities, and foreign car import activities.

For the purposes of this Environmental Impact Report, an attempt was made to quantify the expected development in subareas 1-10. These forecasts (to the year 1987) are of particular relevance to the traffic impact assessment (Chapter IV and Appendix 1), making it possible to predict "background" traffic levels exclusive of the proposed project for Commonwealth Pier. The table below summarizes information about new development in the Commonwealth Pier area to the year 1987, current at the time of this writing:

SUMMARY OF NEW BACKGROUND ACTIVITY (1987) IN STUDY AREA,
LISTED BY SUB-AREA

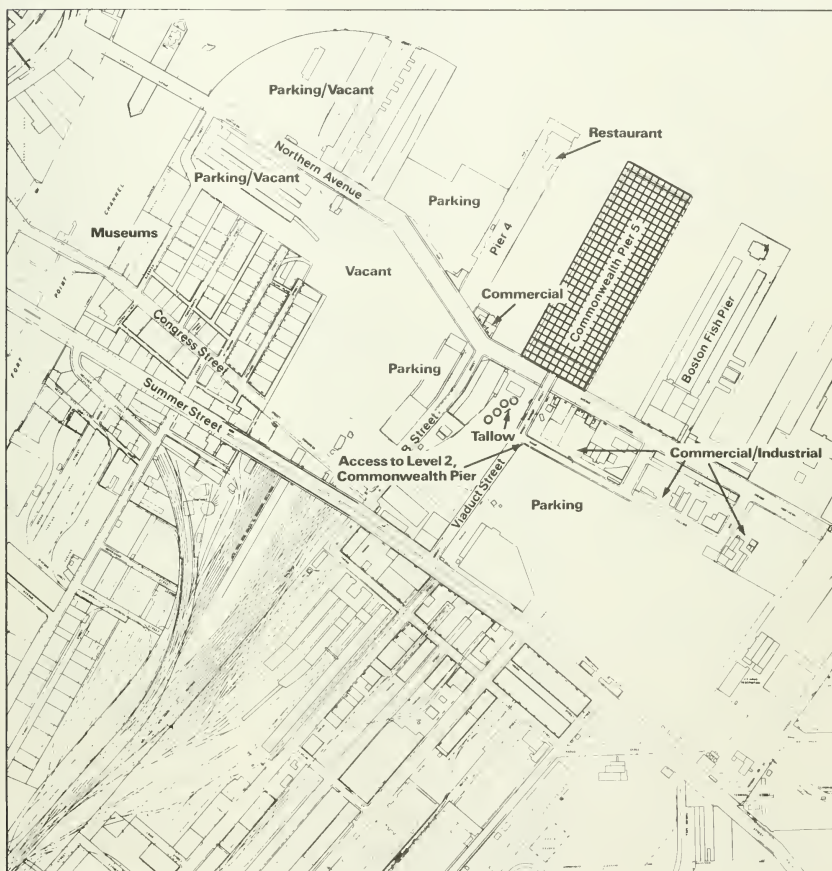
Sub-area	Type of Development	Size/ Characteristics
1	Office	80,000 gsf ^{1/}
2	Apartment	900 d.u.s. ^{2/}
	Hotel	1,000 rooms
	Office	250,000 gsf
	Retail	75,000 gsf
	Marina	50 berths
4	Apartment	150 d.u.s.
	Office	130,000 gsf
7	Truck Terminal	30 new employees
9	Warehousing	100,000 gsf
	Industrial	250,000 gsf

1/ gsf = gross square feet

2/ d.u. = dwelling unit

The Commonwealth Pier redevelopment is occurring in close proximity to downtown Boston, in an area experiencing substantial development and redevelopment pressure. Several areas--Piers 1-4, the Boston Wharf Company Buildings, and parts of the former Penn Central right-of-way--have the potential for major high density mixed-use development within the next 20 years. Industrial, distribution and some maritime-related activities are currently distributed throughout the study area and may consolidate and grow in the southern and eastern halves of the area, away from the parcels in demand for residential and commercial development. This consolidation of seaport-related activities in the area south and east of Commonwealth Pier may continue to occur even in the absence of further land development pressures. Factors such as the expansion of the Boston Marine Industrial Park, technological changes affecting the demand for certain water-related industries, competition with other Northeast ports for bulk shipping cargo, and investments or improvement in private and public maritime facilities elsewhere in Boston Harbor insure the adequate capacity for maritime cargo.

Generalized Land Uses Near Commonwealth Pier



SITE DESCRIPTION

Commonwealth Pier is located on the South Boston waterfront and is currently owned and managed by the Massachusetts Port Authority (Massport), an independent public agency with revenue bond authority created by the State Legislature. The Pier structure has 850,000 square feet of space within three two-level sheds and a four-story Headhouse. The neighboring pier to the east is Pier 6, the Boston Fish Pier, a Massport property used for fish sales and processing, as well as office and restaurant uses. To the west is Pier 4 which contains a large, nationally recognized restaurant. To the south lies Commonwealth Flats, 30 acres of Massport property with several small commercial, industrial and warehouse uses, and a parking lot with a capacity for 700-800 cars (see Figure II-3).

The principal means of vehicular access to the study area is from the west--across the Fort Point Channel via bridges linking South Boston to downtown Boston and the Central Artery (Interstate 93)--and from the south--through South Boston via the network of local streets. Streets A through E run north-south, connecting South Boston to Summer Street. Viaduct and B Streets connect Summer Street with Northern Avenue. Summer Street is the only connection between the portion of South Boston east of the U.S. Naval Annex and Commonwealth Pier. Northern Avenue serves as a principal access route linking Commonwealth Pier and other nearby waterfront properties with downtown Boston. Major parking areas and various commercial and industrial properties are served by this street, resulting in substantial truck and passenger vehicle volumes.

Running parallel to Northern Avenue, but further south, are Congress and Summer Streets. They too link the area with downtown Boston, but generally have lighter traffic volumes than Northern Avenue. Both are alternate access routes to Commonwealth Pier, particularly Summer Street which is linked to the Pier by a viaduct.

Public transportation to the area is possible via two modes, subway and bus. South Station is nearby, and is served by Red Line Rapid Transit, Amtrak, commuter-rail and commuter bus. The Trailways Bus Station is also near South Station. One city transit bus route--linking City Point with downtown Boston--traverses the study area via Summer Street and Northern Avenue, making stops at Commonwealth Pier. Two other bus routes follow Broadway and Eighth Street, but are beyond convenient walking distance to the site.

Pedestrian access to the site area is possible via Northern Avenue, Congress Street or Summer Streets and the viaduct. However, the entire area is generally difficult for pedestrians, and there are few pedestrian amenities. Since it is an industrial area, many areas are unsafe and inaccessible to the general public. Sidewalks along the major streets are generally narrow and frequently interrupted by commercial driveways. There are few signs to guide pedestrians to places of interest and no conveniences such as benches, shelters, kiosks or traffic signals. There are, however, several restaurants, and some parts of the area have excellent views of the waterfront, harbor, downtown Boston and Logan Airport.

A branch line of the former Penn Central Railroad (now Conrail) enters the area from the south, continues northward adjacent to B Street, and turning eastward, runs parallel to Northern Avenue to serve the waterfront. The study area has an extensive waterfront, most of which is accessible by maritime craft. Currently, the majority of vessels originating from or destined for the area serve commercial activities.

Public access to the piers is generally dependent on the uses of the piers. For example, since Piers 1-4 are used principally for parking and restaurant activities, these Piers offer access to patrons. Commonwealth Pier Five has access for cruise ship and excursion boat patrons, for visitors to periodic shows and exhibitions, and during special events. Pier 6, the Fish Pier, is the location of a restaurant which is open to the public, but the rest of the pier is closed to the general public. Further east, on piers located in the Boston Marine Industrial Park, public access is discouraged.

Public utilities available to the site include water, sewer, storm drainage, and electricity. Water and sewer mains in Northern Avenue provide domestic water, fire protection and sewer service to Commonwealth Pier and neighboring properties. Storm drainage is provided by a network of drains and outfalls in Northern Avenue, adjacent Massport properties and the Pier itself. There is a 12 inch gas main in Northern Avenue, but gas pipe lines do not extend to Commonwealth Pier. Electrical power lines supply Northern Avenue from in ground and above ground facilities.



Currently, Commonwealth Pier's principal uses include both maritime and non-maritime related activities. Non-maritime uses include warehousing for non-water dependent goods, and the leasing of a portion of the second floor for gate shows and exhibitions. The maritime function of the Pier is primarily that of a cruise ship terminal, the only one in Boston capable of accommodating major passenger liners. Ships such as the Queen Elizabeth II and the S.S. Rotterdam, along with a number of smaller ships, dock there briefly approximately twenty times a year. Smaller harbor cruise ships, excursion boats, and water taxis also dock at the Pier during the summer months.

The Pier also functions as a cargo terminal primarily for the export of tallow from a facility operated by Corenco and located across from the Pier on Northern Avenue. The tallow is transferred to cargo ships through a pipe which runs along the viaduct and through the Pier structure. The tallow export volume, currently about 30,000 tons per year, is expected to increase modestly in the future. Corenco is committed to continuing business in Boston. Its lease expires in September, 1982. In order to retain this maritime business in Boston, Massport is negotiating with Corenco concerning a new site.

The major non-maritime use of the Pier is a 180,000 square foot exhibition hall located on the second level, and leased to North American Expositions, Inc. This portion of Commonwealth Pier is a major location in Boston for gate shows and exhibitions, such as the Boat Show, Flower Show, the Northeast Computer Show and the Home Show. The Pier is also used for short term storage and warehousing and a Foreign Trade Zone warehouse facility.

In 1981 Massport completed a design and market feasibility study of Commonwealth Pier which assessed its potential for redevelopment. It was found that a mixed use development with some combination of office, hotel, trade mart, exhibition, retail and industrial uses would be feasible from a market standpoint. Earlier analyses by Massport indicated that rehabilitation of the Pier to active status as a cargo terminal would not be technically, operationally or financially feasible. A prospectus was issued offering the Pier for redevelopment in May, 1981. Massport insisted on the retention of Commonwealth Pier's cruise

ship and excursion boat docking facilities, as noted in this development prospectus.

In May of 1981, an Environmental Notification Form (ENF) was filed with the Executive Office of Environmental Affairs. The project described was a hypothetical high intensity mixed use program for the Pier including offices, a trade mart, a hotel, a restaurant, a cruise ship terminal and excursion boat docks. The ENF Concept was based on Massport's feasibility studies and was used by MEPA, other agencies, and the general public to determine the environmental issues to be analyzed in this Environmental Impact Report.

In January, 1982, Massport selected FMR Properties, Inc., as developer for the project, after an extensive international developer solicitation and selection process. FMR's proposed development, BOSCOM, is similar to the preliminary development concept described in the ENF but has significantly less office space and a larger hotel. The focus of the project is a trade mart and exhibition space for high technology industries.

Three alternatives for the redevelopment of Commonwealth Pier are analyzed in this Environmental Impact Report. These three alternatives were established based upon the EIR Scope and Alternatives memo issued by the Secretary of Environmental Affairs in July, 1981, and were reviewed in detail with the MEPA office on February 8, 1982. One, the No-Build, assumes no significant change in the Pier's present use. The other two, the Preliminary Development Concept as outlined in the ENF, and the BOSCOM Project, differ primarily in the mix of specific uses and density of development on the Pier. The BOSCOM alternative corresponds to the third alternative specified by the Scoping Memorandum, which emphasizes different building masses, and provides for expanded maritime uses and public access to Commonwealth Pier.

In the following chapters, the alternatives will be described in terms of their potential impacts in the seven categories of potential impacts set forth in the Scoping Memo (see Appendix 2): 1) Transportation, 2) Air Quality, 3) Historic Significance, 4) Maritime Activities, 5) the Foreign Trade Zone, 6) Public Access, and 7) Public Utilities. In addition, this EIR examines the potential for construction period impacts associated with these seven impact categories.

Alternative 1: No-Build

The No-Build Alternative to the proposed project assumes the continuation of Commonwealth Pier's present uses, with no reconstruction of the Pier or its buildings (see Figure III-1). The present uses of the Pier, cruise ship and smaller boat docking, limited warehousing, and an exhibition hall, would continue in the short-term. However, the continued deterioration of the Pier structure and buildings would preclude continuation of these uses in the future.

Massport studies indicate that the cost of re-building the roof (to stop a serious water leak problem) would be approximately \$5 million. Another \$5.2 million would be required to make necessary repairs to the Pier's structural supports, pilings and facade. While the repairs would stabilize the building for ten to twenty years, the Pier does not generate sufficient revenues to support these expenditures. Massport is not prepared to invest in upgrading the Commonwealth Pier structure in the absence of more economically self-sustaining uses. Given current trends in water freight-transport and Commonwealth Pier's outmoded facilities, expansion of cargo handling at the Pier is not likely.

No-Build Alternative



Commonwealth Pier is comprised of two architecturally and functionally distinct buildings: the headhouse (right) and the sheds (above). headhouse is a 4-floor Beaux Arts structure with office and vehicular drop-off space. Note the viaduct (right) creating a second access level to the Pier. The sheds and cargo hoist remain from an era of more active cargo use. The Pier, in particular the shed structure, is deteriorating. This trend will continue unless new uses can be located at the Pier to increase its economic viability.



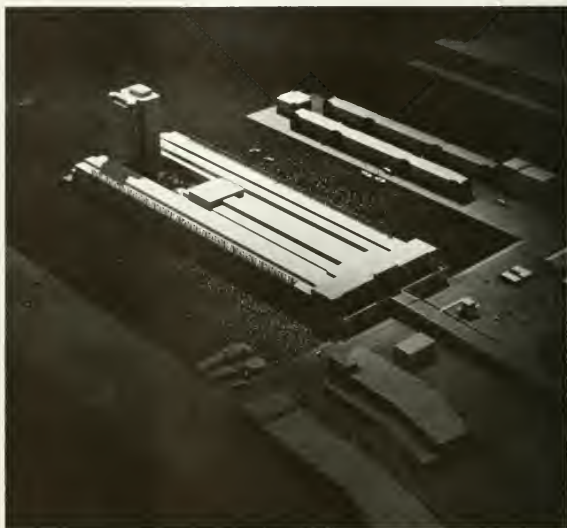
Under the No-Build Alternative, the continued deterioration of the shed structure would eventually lessen the usefulness of the Pier for both maritime and non-maritime activities. Therefore, there are virtually no benefits from the No-Build Alternative, and the costs of this alternative include the loss of revenues which more intensive use of the Pier would generate. The continued deterioration and under-use of the Pier would have a dampening effect on efforts to revitalize other properties in the South Boston area.

No-Build Alternative

Exhibition Hall	180,000 SF
Ship Terminal	50,000 SF*
Warehousing/Offices	70,000 SF*
Vacant	550,000 SF

*(variable)

The Preliminary Development Concept called for renovation of the Headhouse and sheds, partial demolition of the central shed at the north end of the Pier with the creation of an office tower and landscaped space in this area. The concept plan was created to illustrate one redevelopment option for the Commonwealth Pier Five Development Prospectus. These "aerial perspectives" of the model show the Pier from the southwest (top) and from the northwest (bottom). In both photos, Fish Pier is in the background.



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Alternative 2: Preliminary Development Concept

This hypothetical development concept was generated by Massport as one example of how the Pier could be successfully reused. This concept was the highest intensity use program contained in the development prospectus issued by Massport in the Spring of 1981 to solicit developer interest in the Commonwealth Pier site. For this reason, it was used to characterize the project in the ENF.

The plan contained a mixed-use redevelopment, including office, hotel, restaurants, exhibition, conference space, cruise terminal, and parking. Since the plan was conceptual, the square footage devoted to each use and the design details were preliminary. Features included removing portions of the middle shed in order to increase the building perimeter and allow for natural lighting. The Headhouse would be used as office space, and the plan included an office tower of 12 to 18 stories. With the addition of two new floors within the long shed structure, 580,000 square feet of office space would be provided in the low rise structure and 139,000 square feet in the office tower. Parking for approximately 1,200 automobiles would be provided on the first and second levels of the redeveloped building. An office tower would be constructed at the water end of the Pier in order to take advantage of views of the Boston skyline and the harbor area. (See Figure III-2.)

This plan also included a trade mart combining permanent and temporary exhibition space. The Foreign Trade Zone could be used as part of the effort to attract firms to the trade mart. Suggested retail uses included shops in portions of the shed area.

The Preliminary Development Concept included the retention of cruise ship terminal activities. To accommodate this use, 20,000 square feet of the second floor of the west portion of the Pier was allocated for use as a cruise ship terminal.

Preliminary Development Concept

o Exhibition (trade mart, display facilities)	340,000 SF
o Conference facility	30,000 SF
o Office	340,000 SF
o Hotel (100 rooms)	80,000 SF
o Restaurant	20,000 SF
o Cruise Terminal (cruise ship & ferry docks)	20,000 SF
o Parking (1,000 spaces)	<u>510,000 SF</u>
Total	<u>1,340,000 SF</u>

Alternative 3: BOSCOM Development Project

This development project proposed by FMR Properties corresponds to the third alternative listed in the Scoping Memo. Massport has selected this development proposal for Commonwealth Pier: it is the preferred alternative. Compared to the Preliminary Development Concept, it includes substantially reduced office space, a larger hotel, greater space for maritime use and public access, and a design approach for the Pier and Headhouse consistent with historic preservation goals.

The following features of BOSCOM are presented here in an effort to introduce both the operational and physical requirements of such a major integrated, mixed-use facility:

- o Program of Uses
- o Typical Visitor Day
- o Ancillary Facilities (particularly the hotel and restaurants)
- o Design Concept

Floor plans, elevations, sight line drawings, and model photos are provided which have been developed since the Draft EIR was published. These provide a more up to date description of the project.

Program of Uses

The redevelopment of Commonwealth Pier focuses on a marketing and exhibition center for the computer and communications industry. While Alternative 2 emphasized mixed-use with a predominance of office space, the BOSCOM development project features substantial areas for trade mart and exhibition uses, a larger hotel, and substantially less office space. The BOSCOM project also allocates more square footage to the ship terminal and areas for docking smaller vessels.

The BOSCOM project includes the following uses for the buildings: the Headhouse will be converted to an atrium lobby, with escalators added to provide vertical circulation. Support offices for the BOSCOM staff and press facilities will also be located in the Headhouse area.

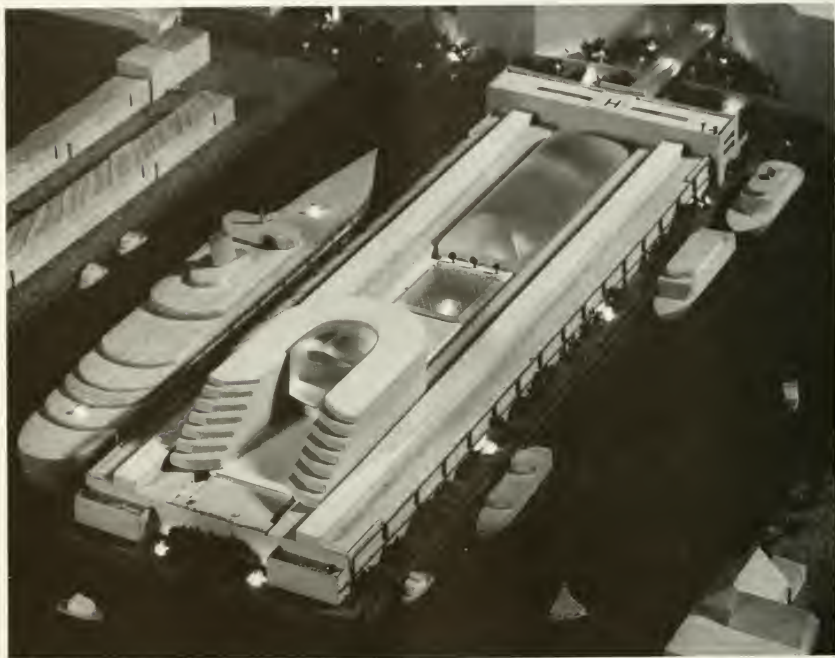
The shed structure will include exhibit halls, showrooms for the trade mart, conference rooms, concessions, restaurants, parking, and in a later phase, a 500-room hotel. The primary exhibit halls will be located on the upper levels, with parking on the ground level. The apron area surrounding the building will be retained for maritime uses, such as cruise ships and excursion boat docking, and public access.

The anticipated use program is as follows:

BOSCOM Project

o Office	30,000 SF
o Exhibition/Conference	221,000 SF
o Trade Mart	364,000 SF
o Hotel (up to 500 rooms)	316,000 SF
o Retail	23,000 SF
o Restaurant	49,000 SF
o Ship Terminal	37,000 SF
o Parking (520 spaces)	<u>271,000 SF</u>
Total	<u>1,311,000 SF</u>

BOSCOM Development Project



BOSCOM -- a marketing and communications center for the communications industry -- will be a mixed use development including exhibition, conference, trade-mart, cruise terminal, restaurant and hotel uses. The model photograph included here illustrates the overall design concept for redevelopment of the Pier structure and replacement of portions of the central Pier shed with exhibition and hotel uses. Once the trade mart is in full operation, a mid-rise hotel is planned for the north end of the Pier. The hotel structure is stepped back from the harbor and is being designed to minimize its visual impact as visitors approach the headhouse from the viaduct. Further illustrations -- elevations, sight lines and floor plans -- are included at the end of this chapter.

Floor plans included here indicate the allocation of these uses within the facility. Careful integration of uses and effective circulation will be key to providing all the needed visitor and vendor services.

Typical Visitor Day

The typical visitor will attend BOSCOM for a specific purpose: to visit a selected list of showrooms, to attend a seminar, and/or to view an exhibit. The typical program anticipates a week long stay, combining several of these purposes. BOSCOM's intent is to establish an effective marketing environment where both tenants and visitors will use their time efficiently and will benefit fully from the business opportunities offered by the mart. This constitutes the single most important factor for the success of the entire project.

It is anticipated that visitors not already staying in the on-site hotel will arrive each day by taxi, shuttle bus, or private automobile. They will then go directly to the lobby to register, to check their schedule for the day, to "mingle", and to look for friends. Once registered, the visitor may visit showrooms, exhibits, or attend seminars. Support facilities are planned in anticipation of visitors' needs. In addition to conventional building services, business facilities offering an "office-away-from-office" and the full range of hospitality services will be required. Business services will provide facilities for conference/meeting rooms, secretarial/steno/dictation services, reproduction service, bank(s), post office, message/dispatch services, and teleconferencing.

Ancillary Facilities

Each use in the BOSCOM trade mart is a response to a specific need. Showrooms, the main exhibit hall, and conference/seminar centers are the primary uses. Ancillary uses supporting these facilities include a hotel, restaurants, hospitality shops, business services, and the full range of building services.

In order to be effective, trade marts must combine features of conventional shopping centers, conference/exhibit halls, design centers, and office buildings into efficient marketplaces serving specific industry groups. They must offer buyers a comprehensive overview of the range of available products, and offer sellers access to a wide customer

base, thereby increasing the efficiency of marketing dollars devoted to personal selling and market research.

Unlike shopping centers, trade marts are not designed to attract casual visitors or impulse buyers. The typical business visitor attending a trade mart would have a specific "shopping list" and a tightly planned schedule. Such a person would expect to spend the minimum possible time waiting on lines, travelling to and from hotels and/or restaurants, or buying convenience goods and personal services. Consequently, the success of the mart will depend on its ability to provide the full range of services needed for conducting business within the premises, allowing all tenants and visitors to allocate their time efficiently.

Ancillary facilities provided by most trade mart operations include one or more high quality hotels, a full range of food service establishments, and hospitality shops. The table included here provides a comparison of BOSCOM's proposed facilities with selected trade marts in the United States and Canada.

The data in the table on "Major U.S. Trade Marts" refer only to hotel and restaurant facilities which are physically integrated within the mart itself. Business generated by mart activities generally exceeds the capacity of these activities. For example, approximately 6800 rooms--all located within walking distance--serve the Atlanta Mart in addition to its 1200 integral hotel rooms. In Pittsburgh, 1800 additional hotel rooms are available to the Mart. In Miami, the 341-room hotel under construction is supplemented by an additional 2000 rooms nearby. Place Bonaventure, located in downtown Montreal, is accessible from all the transient accommodations provided in the central city. Thus, BOSCOM's 500 hotel rooms and three to five restaurants are within the general range of ancillary facilities for trade marts.

Most trade marts focus on one or more of four industries: furniture, apparel, carpet and gifts. In terms of its intensity of use and type of operation, BOSCOM will be more similar to Chicago and Atlanta Marts than the other examples because these marts service all four industries which have traditionally used marts.

Major U.S. Trade Marts, Size and Integral Facilities

Name	Total Area Exhibit/ Showrooms (sq. ft.)	Number Integral Hotel Rooms(1)	Number Public Restaurants (hotel & mart)	Number of Seats in Restaurant
Chicago Merchandise Mart	6,500,000	550	35	3,000
Atlanta Merchandise Mart	3,200,000	1,200	40	NA
Place Bonaventure Montreal	1,500,000	400	20	2,526
Miami Merchandise Mart	520,000	341 (2)	2	300
Hyatt/Minneapolis	300,000	540	4	520
Denver Merchandise Mart	600,000	165	2	200
Dallas Market Center	7,500,000	900	9-10	1,650
BOSCOM (proposed)	1,311,000	500	3-5	1,300-1,600

Notes:

(1) Built as part of trade mart complex. Not including extensive hotel facilities in the vicinity of each trade mart site.

(2) Under construction

Survey Prepared by BOSCOM, August 1982.

These four industries offer specific goods for particular seasons. This leads to a peak and valley pattern in the mart's usage. Therefore, activities at general merchandise marts tend to be seasonal because they serve industries with high turnover and frequent style changes. However, BOSCOM will maintain a steadier volume of activity throughout the year because it will serve the computer and communications industries, an industrial sector without seasonal product development.

BOSCOM will present large trade shows like general merchandise marts, and there will be periods when shows are being set up or taken down. However, BOSCOM's combination of exhibit/showroom functions with conference/seminar centers permit events in these areas to be scheduled so as to dovetail with the valleys preceding and following major shows, and will result in an even volume of operation throughout the year.

BOSCOM, thus, requires hotel and restaurant facilities of the scope proposed here in order to support the pattern and intensity of use anticipated for the mart. Planning for the hotel calls for the rooms to be occupied by BOSCOM visitors. While the hotel will not be closed to the public, it will be marketed primarily for BOSCOM visitors.

Plans for restaurant facilities are focused on all visitors to BOSCOM. Restaurants will serve hotel guests, out-of-town visitors not accommodated at the on-site hotel, and Boston-based mart users. Restaurant capacity was based on the following assumptions:

a. Hotel guests:

Hotel guests will require breakfast, lunch and dinner service. Assuming 30% double occupancy and 79% occupancy rate, this will generate:

Breakfast	Need = 513 covers X 100% utilization = 513 covers
Lunch	Need = 513 covers x 70% utilization = 359 covers
Dinner	Need = 513 covers x 70% utilization = 359 covers

b. Non-hotel out-of-town mart users:

Total out-of-town users = 869 persons
(excludes hotel guests @ 395)
Lunch Need = $869 \times 100\%$ utilization = 869 covers
Dinner Need = $869 \times 50\%$ utilization = 435 covers

c. Boston-Based Mart Users

Total (includes visitors and employees) = 1,292 persons
Lunch Need = $1,292 \times 100\%$ utilization = 1,292 covers
Dinner Need = $1,292 \times 10\%$ utilization = 129 covers

d. Total Estimated Need for Food Service

Breakfast = 513 covers
Lunch = 2,520 covers
Dinner = 823 covers

Since mart operations require no-wait service available when needed, food service facilities should be capable of feeding up to 2,520 persons at any one time. These requirements of the BOSCOM trade mart are reflected in the design for BOSCOM.

Design Concept

The model photos, elevations, roof plan and sight line drawings included here describe the latest design concepts for the BOSCOM development. Special attention has been focused on the hotel in order to minimize its visual impact and maintain the essential historic character of the structure. This design is being prepared for submission to the U.S. Office of Cultural Programs for Certification as an historic rehabilitation. This process will likely involve detailed design review and revision before certification is achieved.

As shown here, the hotel will not exceed the Federal Aeronautic Administration's height limitation of 170 feet above mean sea level. The Headhouse is 75 feet in height, so the hotel will be taller than the Headhouse. However, the hotel will be designed so that on the sight line from the entrance point of the viaduct at Summer Street, a visitor will not be able to see the top of the hotel over the top of the Headhouse. (See Figure III-7, Sightline from Summer Street.)

The height and massing of the BOSCOM hotel present a significant improvement over the Preliminary Development Concept. The Preliminary Development Concept called for a 12 to 18-story office tower at the north end of the pier. Reaction to that concept from Federal officials indicated that any development at the Pier should avoid a tower and look to a more horizontal massing. The BOSCOM Alternative specifically addresses these concerns.

The BOSCOM Alternative proposes a 12-story (8 stories above the 4 stories of the sheds) hotel. However, at the northern end of the hotel, as the building rises above the existing structure, the floors are stepped back to present a more gentle, subtle profile as seen from ground or water level than would a tower. See Figures III-3 and III-5 through III-10.

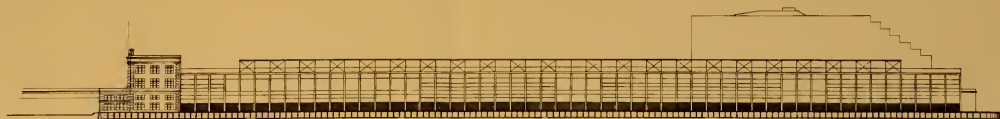
As part of the BOSCOM plan, Massport will retain management of the entire apron area, and of the cruise ship and excursion boat docking activities. The cruise terminal will be located on the east side of the Pier, and will have a separate entrance point and support facilities. The excursion boat operations would continue in their present space on the west Apron, with the potential to expand further toward the end of the Pier.

Heliport facilities are being contemplated for the roof of the project, as are satellite antennae; however, these options will require further study and will be subject to a full environmental review if there is any intention to proceed.

In order to establish the economic viability of the BOSCOM project, FMR Properties retained Arthur D. Little, Inc. to analyze the need for a trade mart to serve the computer and communications equipment industry. Its report concluded that the high technology industry's need for a trade mart will be realized in the 1983-1985 period, and can be expected to continue as the industry grows.

As noted in Chapter II, construction of BOSCOM is scheduled to begin early in 1983, with opening of the trade mart facilities in 1983-1984. It is anticipated that the hotel will be constructed after operations at the trade mart rise to a level that will support it.

Longitudinal Elevations of Pier: BOSCOM



EAST ELEVATION



WEST ELEVATION

Partial Longitudinal Elevation of Pier: BOSCOM





Sightline from Summer Street: BOSCOM



Current BOSCOM Proposal



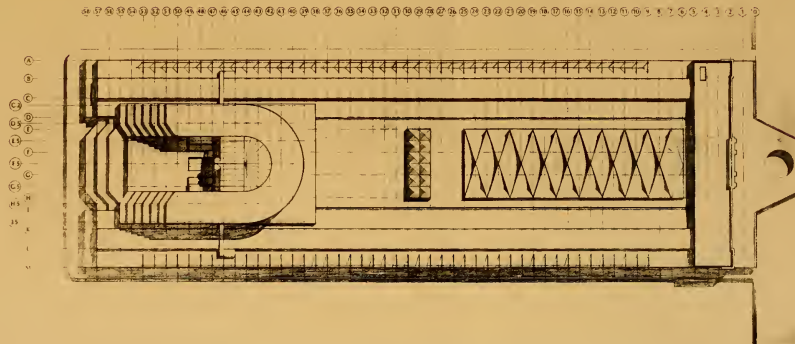
Original BOSCOM Proposal
(shown in Draft EIR)



Preliminary Development Concept



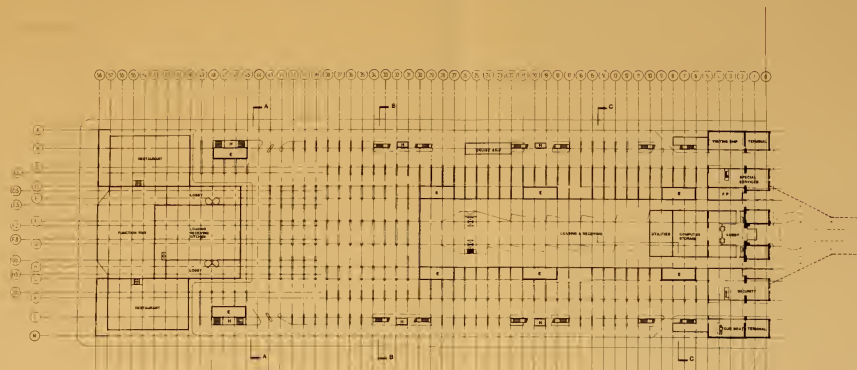
Roof Plan: BOSCOM



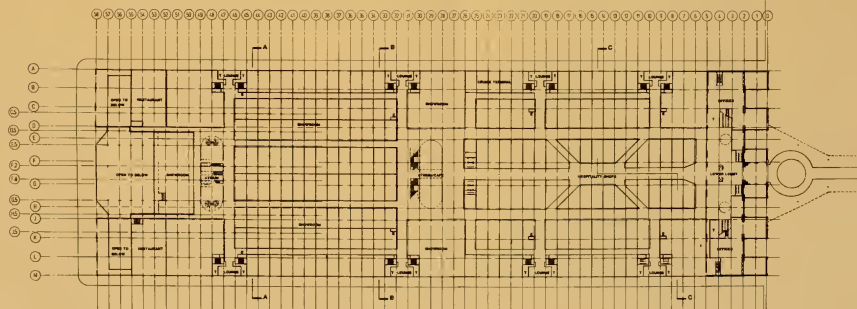


Floor Plans: BOSCOM

Ground Level Plan



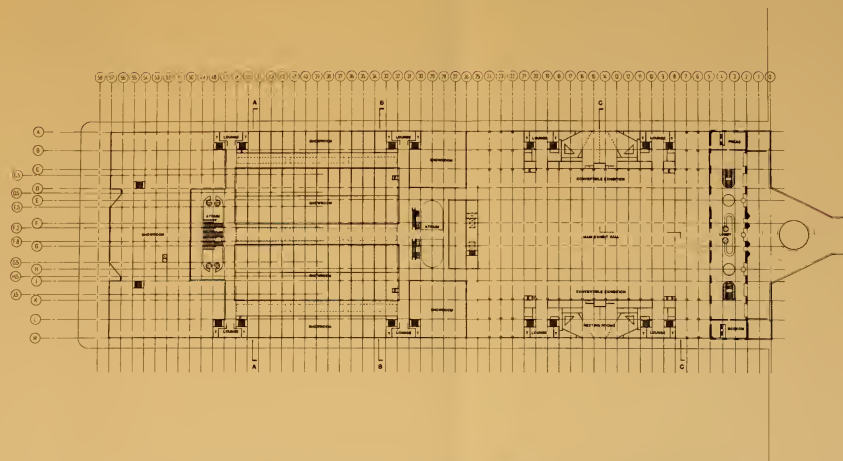
First Level Plan



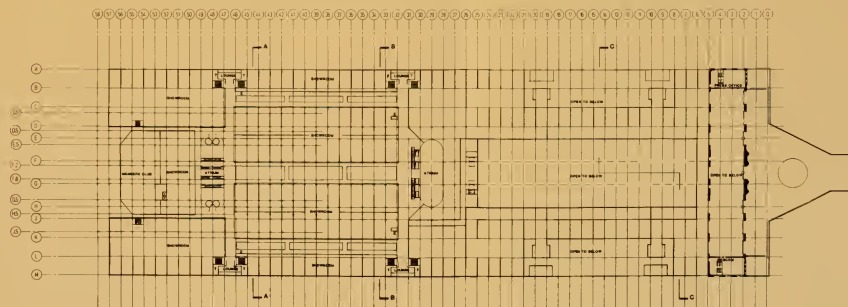


Floor Plans: BOSCOM

Second Level Plan



Third Level Plan



Alternative 4: Optional Alternative

The MEPA Scoping Report left open the option for analysis of an additional alternative, in the event the selected development proposal proved to be incompatible with the building massing and maritime use objectives of the Scoping Report's Alternative 3. Since the

BOSCOM project satisfies these objectives, no additional alternatives were formulated. This decision was reviewed with the MEPA office in February, 1982 and was approved by MEPA. While some minor variations and modifications can be expected in the preferred Alternative--the BOSCOM project--as the project progresses, these are expected to be consistent with this EIR.



Introduction

Pursuant to the Scope and Alternatives memo for this EIR (see Appendix 2), the following environmental issues are discussed in connection with each of the three alternatives for Commonwealth Pier:

- o Transportation
- o Air Quality
- o Historical Significance
- o Maritime Activities
- o Foreign Trade Zone
- o Public Access
- o Public Utilities
- o Noise
- o Air Space

While not identified in the Scoping Memo, construction activities, as they might affect these categories of potential impacts, are also discussed in this Chapter. Those categories of impact not deemed significant are described in the Scoping Memo (see Chapter VII).

Permits

In conjunction with the preparation of this Environmental Impact Report, Massport and FMR Properties will seek the following agency reviews, permits and approvals for the BOSCOM project:

- o Army Corps of Engineers status review (rehabilitation of existing Commonwealth Pier apron).
- o Federal Aviation Administration, Section 77 review of consistency for building height.
- o U.S. Department of the Interior certification of rehabilitation design.
- o Federal Communications Commission and Federal Aviation Administration review for microwave and satellite transmitters, if any.
- o U.S. Coast Guard review of maritime program/facilities.
- o Massachusetts Department of Environmental Quality Engineering (DEQE), Division of Waterways confirmation of exemption from Chapter 91, Section 14.

- o DEQE Division of Water Pollution Control and Metropolitan District Commission sewer use permit.
- o DEQE Air Quality Division permit/review for new sources of air contaminants (fossil fuel heating facility, if any).
- o Massachusetts Historic Commission and Boston Landmarks Commission review of proposed rehabilitation design.
- o Massachusetts Office of Coastal Zone Management consistency review.
- o Massachusetts Aeronautic Commission review of heliport (if any).
- o Boston Water and Sewer Commission review of utility plans.
- o Boston Conservation Commission Order of Conditions.

Transportation Analysis

INTRODUCTION

Detailed response to the transportation issues raised in the Certificate of the Secretary of Environmental Affairs can be found at the end of this Transportation section, p. 82 to 95.

The following pages present a summary of the transportation analysis carried out for the Environmental Impact Report. For a more detailed discussion of the transportation aspects of the project, please refer to Appendix 1 of the Technical Appendix.

The objective of the transportation analysis is to estimate travel demands created by the projected BOSCOM development of Commonwealth Pier. These estimated demands were compared to base conditions expected in the design or implementation year of 1987 to estimate probable impacts of the project.

The transportation analysis study process was carried out in three tasks:

1. Description of the Environment -- This task measured existing transportation conditions including activities at Commonwealth Pier and at other locations in the study area.
2. Probable Impacts of the Project -- The second task forecasted transportation demands generated by the Preliminary Development Concept and BOSCOM Alternatives along with forecasts of traffic generated from anticipated land development in the study area. These forecasts were then compared with system capacity to identify potential problem areas and needs. It was found that the most significant impacts would occur at the Fort Point Channel crossings and adjacent intersections. Northern Avenue is expected to experience the heaviest impacts, primarily as a result of background development in the area traffic.
3. Measures to Mitigate Environmental Impact -- The last task in the study process identified potential solutions to alleviate transport impacts created by the BOSCOM development. Several mitigating measures were identified including the operation of shuttle bus service between the major downtown Boston hotels and Commonwealth Pier to serve BOSCOM visitors; development of a parking pricing policy to discourage automobile usage; improvements to MBTA bus routes now serving the site; and intersection improvements at the Congress Street/Atlantic Avenue intersection.

DESCRIPTION OF THE
ENVIRONMENT

Identification of the Study Area

A meeting and subsequent field investigation were held between the consultants and the MEPA staff on September 23 and 24, 1981 to specifically identify where the project impact would be measured. The specific locations which were identified and selected for further analysis include ten intersections on the perimeter of South Boston and four intersections located within South Boston. Generally, the traffic analysis study area is bounded by Atlantic Avenue in downtown Boston; Albany Street, Old Colony Avenue, Day Boulevard, and L Street as shown in Figure IV-1.

Data Collection

A comprehensive field inventory of the traffic study area was conducted between November, 1981 and March, 1982. The field survey included collection of daily and peak hour traffic volumes on the study area roadway system, roadway geometrics, traffic control device locations, vehicle speeds, accidents, MBTA bus route ridership data, and cruise ship passenger characteristics. The data collection phase of the project provided a great deal of detailed information regarding travel characteristics within the study area. This information is briefly summarized in the following sections.

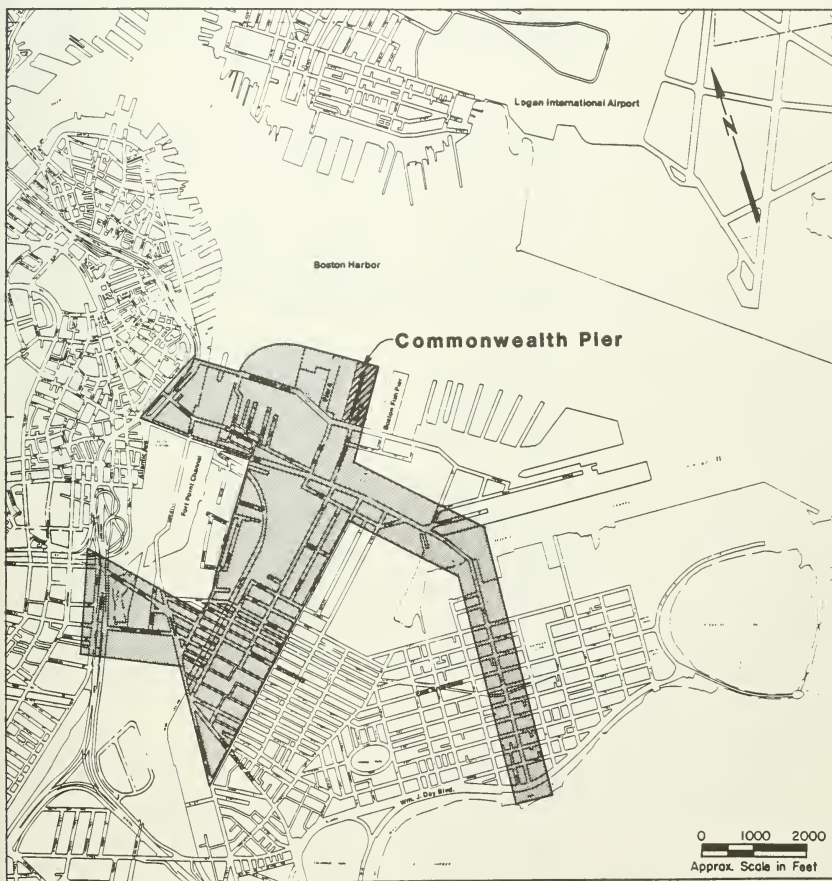
Traffic Volumes

The traffic count program provided data on hourly and daily flow variations, showing that peak conditions occurred on a weekday during morning and evening commuter hours. Weekend volumes were significantly lower due to the absence of commuter vehicles.

Traffic volumes, on the three Fort Point Channel crossings vary considerably. The Northern Avenue bridge carries approximately 20,600 vehicles per weekday (vpd). Congress Street and Summer Street carry 10,100 vpd and 28,200 vpd, respectively. Other major roadways carry significant traffic volumes. For example, L Street carries approximately 12,600 vpd and Old Colony Avenue handles 21,500 vpd. The Broadway Bridge carries 12,900 vpd while the West Fourth Street Bridge carries 12,700 vpd. The manually collected data indicates that peak hour traffic generally accounts for between 7 and 11 percent of the daily flows, and that traffic volumes on the major

Figure IV-1

Traffic Analysis Study Area



arteries are highly directional with predominant flows moving toward downtown Boston during the morning peak hour and away from downtown Boston during the evening peak.

Transit Service

The Massachusetts Bay Transportation Authority (MBTA) currently operates two bus routes that use Northern Avenue adjacent to the Commonwealth Pier.

Route 6 provides local service between the Army Base in South Boston and Haymarket. Route 7 provides local service between City Point, South Boston and downtown Boston. Both routes stop at South Station and Route 6 also stops at Haymarket, providing a direct connection to the regional subway/trolley system.

During the peak hour, Route 6 operates at 15-minute headways and Route 7 operates at 11-minute headways for a total of 9 to 10 buses passing Commonwealth Pier during the peak hour.

Cruise Ship Operations

Cruise ship operations currently play a role in the use of Commonwealth Pier. Commonwealth Pier is the only cruise ship passenger terminal in Boston and handles approximately 15-30 major cruise ships per year. In addition, regularly scheduled charter boat, jazz boat and irregularly scheduled excursion activity takes place at Commonwealth Pier during the summer months. During the study, a review of all cruise ship activity during 1981 was undertaken and a survey of all passengers boarding the cruise ship Volendam was conducted in order to obtain data regarding passenger travel characteristics.

PROBABLE IMPACTS OF THE PROJECT

Base Traffic Conditions

To accurately assess the impact of the proposed development of Commonwealth Pier, the future committed roadway network for the 1987 analysis year was established along with future potential development in the area for 1987. After a review of all available information, it is expected that four improvement projects will be completed by 1987. These projects are:

- o Relocation of Northern Avenue from Atlantic Avenue to B Street including reconstruction of the Northern Avenue Bridge
- o Atlantic Avenue and Summer Street intersection improvements
- o Broadway, Dorchester Avenue, and Greenbaum Street intersection upgrade and MBTA kiosk removal
- o Reserved Channel Bridge upgrade

Background Traffic Growth

In addition to the proposed new uses of Commonwealth Pier, there are several planned building programs and rehabilitations at other locations in the study area which will generate new traffic. Specific projects which were included under background growth include the proposed mixed use development (hotel, housing, office and retail uses) on Piers 1, 2, and 3; increased housing and office use along Congress Street; a move of 3,000 Army Base employees to the Barnes Building; and increased warehousing and industrial activity at Boston Marine Industrial Park (BMIP).

Background traffic was estimated using two sources: 1) the Institute of Transportation Engineers (ITE) report "Trip Generation"^{1/}; and 2) person-trip rates for various land uses which were presented in the Parcel 1B, Harvard Square Draft EIR and Final EIR (EOEA #3176).

Person-trips were changed to automobile trips by applying transit use factors (modal split) and car occupancy rates for each land use category. Modal splits were estimated for each of the subareas studied, primarily as a function of the level of transit service available in each subarea and the type of land use proposed.

The results of this analysis indicate planned land development activity within the study area will generate approximately 18,600 vehicle-trips on an average weekday in 1987. The new traffic was added to the existing

^{1/} Institute of Transportation Engineers, Trip Generation, An Informational Report, Washington, D.C., 1975, Rev. 1979.

traffic volumes to develop 1987 No-Build traffic networks. (The No-Build networks indicate peak hour traffic volumes assuming that all proposed projects except the Commonwealth Pier redevelopment are completed).

Trip Generation Analysis - BOSCOM: Alternative 3

The alternative consists of the following land use development program:

o BOSCOM Administrative	
Office	30,000 SF
o Exhibition space	221,000 SF
o Trade mart	364,000 SF
o Hotel (500 rooms)	316,000 SF
o Retail	23,000 SF
o Restaurant	49,000 SF
o Cruise Terminal	37,000 SF
o Parking (520 spaces)	271,000 SF
TOTAL	1,311,000 SF

BOSCOM is currently planning to sponsor four different types of events within the exhibition and trade mart area at Commonwealth Pier. These events range from a one-day program tailored to specific groups or associations to week long events which are organized around specific computer related topics. The selected developer (FMR Properties) has provided the consultant team with estimates of employees and visitors expected on a daily basis in 1987. Data was provided for each of the shows that BOSCOM would offer throughout the year (1987).

The 85th percentile use day was chosen to represent a design day. Attendance on the 85th precentile day will be exceeded only 15% of the time. During this day, a major show would be taking place at Commonwealth Pier, the permanent showrooms and the exhibition space would be fully operational and the BOSCOM administrative offices and the hotel, restaurant and retail uses would be fully functioning. The design day was also chosen to fall on a weekday when a cruise ship is in port in order to determine project impact on peak weekday traffic.

The following table presents the total number of people expected at BOSCOM on the design day.

DESIGN DAY OCCUPANCY
AT BOSCOM

Permanent showroom employees	580
Exhibition space employees	440
BOSCOM Administrative employees	185
Service employees (Hotel, Restaurant, Retail)	300
Visitors	<u>1,015</u>
Total	2,520

As can be seen from the table, a design day crowd consists of 1,505 employees and 1,015 visitors, a total of 2,520 individuals.

The following table was developed from information provided by the selected developer and summarizes the expected daily trip origins by employee/visitor category. The table shows approximately 53 percent of the people at BOSCOM will be from the Boston area while the remaining 47 percent will be from outside the region.

BOSCOM ALTERNATIVE
DESIGN DAY DAILY PERSON-TRIP ORIGINS

Category	Boston Area ^{1/} Home Based	Non-Boston Based		Total
		From Hotels	From Logan	
Permanent showroom employees	480	100	0	580
Exhibition space employees	110	330	n ^{2/}	440
BOSCOM Administrative employees	185	0	0	185
Service employees (hotel, restaurant, and retail)	300	0	0	300
Visitors	<u>255</u>	<u>685</u>	<u>75</u>	<u>1,015</u>
Total	1,330	1,115	75	2,520

1/ The Boston area is defined as an area within an acceptable one-day round trip driving distance from the Boston CBD.

2/ It is expected that all exhibition space employees who are non-Boston based will be in Boston on the design day. There may be some arrivals directly from Logan but this number would not be measurable in terms of level of service impacts at study area intersections.

Given the origin of trips to BOSCOM by category of employee and visitors, an estimate was made of transit usage and temporal distribution to arrive at actual daily and peak hour vehicular travel demands. The transit use factor for employee/visitor category was developed based upon a commitment by FMR Properties to provide shuttle bus operations between Boston area hotels and BOSCOM during show weeks.

Arrival and departure patterns at BOSCOM are affected by operating characteristics of shows expected in the exhibition area. While service type employees are expected to follow normal urban area arrival and departure patterns, visitors and BOSCOM exhibitor/showroom employees will have a unique travel pattern that is dictated by the BOSCOM show operation.

Current plans call for BOSCOM to be operational between 9:00 AM and 9:00 PM during show days. Since these hours are relatively long, covering a 12-hour period, it is expected that the work trip arrivals and departures by employees will be less concentrated than those of typical office developments.

It is expected that afternoon peaking characteristics will be less intense than that of the morning peak hour, primarily due to the nature of the show and the amenities provided by BOSCOM. The expected daily and peak hour auto trips expected to be generated by BOSCOM are shown in the following table.

BOSCOM ALTERNATIVE AUTO TRIP GENERATION SUMMARY

	Daily Auto Trips			AM Peak Person-Trips			PM Peak Person-Trips		
	In	Out	Total	In	Out	Total	In	Out	Total
Home Based	936	936	1,872	270	8	278	68	221	289
Hotel Based	185	185	370	34	-	34	5	27	32
Logan Based	54	54	108	4	-	4	2	6	8
Total	1,175	1,175	2,350	308	8	316	75	254	329

Trip Generation Analysis - Preliminary Development
Concept: Alternative 2

In order to analyze the trip generation characteristics of the Preliminary Development Concept conference/exhibition center, it was necessary to rely on information provided by FMR Properties regarding the BOSCOM alternative since no other specific traffic information was available regarding the Preliminary Development Concept. A comparison of the square footage dedicated to showroom, exhibition and conference space between the two alternatives indicates that the Preliminary Development Concept alternative is approximately 65 percent of the size of the BOSCOM alternative. The analysis of BOSCOM visitors and employee/exhibitor trip generation was thus reduced to 65 percent of the previously reported BOSCOM alternative.

As shown in the following table, the land use development program contains a significant amount of office space making it substantially different from BOSCOM.

Preliminary Development Concept Program

o Exhibition space	340,000 SF
o Conference facility	30,000 SF
o Office	340,000 SF
o Hotel (100 rooms)	80,000 SF
o Restaurant	20,000 SF
o Cruise Terminal	20,000 SF
o Parking (1,000 spaces)	510,000 SF
TOTAL	1,340,000 SF

The following table summarizes the expected daily trip origins by employee/visitor category.

PRELIMINARY DEVELOPMENT CONCEPT
DESIGN DAY DAILY PERSON-TRIP ORIGINS

Category	Boston Area Home Based	Non-Boston Based		Total
		From Hotels	From Logan	
Permanent Showroom Employees	310	65	0	375
Exhibition Space Employees	70	215	n ^{1/}	285
Trade Show Administrative Office Employees	120	0	0	120
Service Employees	195	0	0	195
Visitors	165	445	50	660
Office Employees	<u>1,530</u>	<u>0</u>	<u>0</u>	<u>1,530</u>
Total	2,390	725	50	3,165

1/ It is expected that all exhibition space employees who are non-Boston based will be in Boston on the design day. There may be some arrivals directly from Logan but this number would not be measurable in terms of level of service impacts at the study area intersections.

In general, the Preliminary Development Concept program would result in a higher level of automobile traffic than the BOSCOM proposal. This is primarily due to the office component of the Preliminary Development Concept program. The BOSCOM alternative does not include the substantial office use. Office uses have highly peaked traffic and result in a greater traffic impact.

The difference between the two alternatives is clearly shown in that the Preliminary Development Concept has approximately 645 more person-trip origins than BOSCOM and a substantially higher percentage (76%) of Boston based trips due largely to the proposed office use on

PRELIMINARY DEVELOPMENT CONCEPT
DESIGN DAY DAILY PERSON-TRIP ORIGINS

Category	Boston Area Home Based	Non-Boston Based		Total
		From Hotels	From Logan	
Permanent Showroom Employees	310	65	0	375
Exhibition Space Employees	70	215	n ^{1/}	285
Trade Show Adminis- trative Office Employees	120	0	0	120
Service Employees	195	0	0	195
Visitors	165	445	50	660
Office Employees	<u>1,530</u>	<u>0</u>	<u>0</u>	<u>1,530</u>
Total	2,390	725	50	3,165

1/ It is expected that all exhibition space employees who are non-Boston based will be in Boston on the design day. There may be some arrivals directly from Logan but this number would not be measurable in terms of level of service impacts at the study area intersections.

In general, the Preliminary Development Concept program would result in a higher level of automobile traffic than the BOSCOM proposal. This is primarily due to the office component of the Preliminary Development Concept program which is not present under the BOSCOM alternative. Office uses have highly peaked traffic and result in a greater traffic impact.

The difference between the two alternatives is clearly shown here. The Preliminary Development Concept has approximately 645 more person-trip origins than BOSCOM and a substantially higher percentage (76%) would be Boston based due largely to the proposed office use on

site. These differences indicate that daily traffic volumes would be significantly larger under the Preliminary Development Concept.

The expected daily and peak hour auto trips expected to be generated by the Preliminary Development Concept are shown in the following Table.

PRELIMINARY DEVELOPMENT CONCEPT TRIP GENERATION SUMMARY

	Daily Auto Trips			AM Peak Person-Trips			PM Peak Person-Trips		
	In	Out	Total	In	Out	Total	In	Out	Total
Home Based	2,610	2,610	5,220	804	125	929	168	736	904
Hotel Based	238	238	476	31	-	31	5	29	34
Logan Based	36	36	72	2	-	2	1	3	4
Total	2,884	2,884	5,768	837	125	962	174	768	942

Trip Distribution Assignment

In the previous discussion, the quantity of new vehicle-trips either arriving at or departing from Commonwealth Pier was determined. The trip distribution phase then analyzes the origins and destinations of all trips.

Based on information provided by the developer, it is clear that there are three distinct employee/visitor groups, each with their own trip making characteristics:

- 1) Home based trips - The majority of the employees and a small percentage of visitors will travel between their homes in the Boston metropolitan area and Commonwealth Pier.
- 2) Hotel based trips - A majority of the visitors and a small percentage of the employees will arrive at Commonwealth Pier directly from a hotel in the Boston area.
- 3) Logan based trips - A small percentage of the visitors at Commonwealth Pier will arrive directly from Logan Airport.

Auto trips were distributed differently for each group as described in the Appendix. A brief explanation of each group's traffic patterns follows:

1. Home Based Trips: Home based individuals represent the largest of the three groups. This group's trip distribution pattern relied upon data presented in the report "An Access Oriented Parking Strategy for the Boston Metropolitan Area" (prepared by Wilbur Smith and Associates, 1972). Route assignments were developed using several sources: intersection capacity analysis results, travel speed and delay runs in the study area and the Wilbur Smith trip distribution.
2. Hotel Based Trips: Sixty-seven (67) percent of the BOSCOM visitors and 17 percent of the employees/exhibitors are expected to stay in Boston hotels during a show week. For this reason, the location and projected supply of hotel rooms in Boston and Cambridge in 1987 were analyzed. This supply of hotel rooms was broken down into six different analysis zones based on each hotel's geographical location. BOSCOM destined trips were distributed based on the number of rooms in each analysis zone.
3. Logan Based Trips: A small percentage of trips generated by BOSCOM will include people in town for just one day to attend an event. An estimated 7.5 percent of the daily visitor arrivals would be directly from Logan Airport in East Boston.

Daily Traffic Increases on the Roadway Network

Based on the background traffic growth and development generated traffic, 1987 daily traffic volumes were estimated and assigned to the roadway network for all three alternatives. The following table summarizes the results of the analysis and compares them with existing daily volumes.

EXISTING AND FUTURE DAILY TRAFFIC VOLUMES

	Existing ADT ^{1/}	1987 No-Build ADT	1987 BOSCOM ADT	1987 Preliminary Development Concept ADT
Northern Ave. Bridge	20,560	29,340	30,700	32,680
Congress St. Bridge (over Fort Point Channel)	10,090	11,800	11,980	12,300
Summer St. Bridge (over Fort Point Channel)	28,290	29,450	29,530	29,650
L St. (north of Broadway)	12,560	13,160	13,260	13,390
D St. (south of Summer St.)	9,830	10,480	10,570	10,710

^{1/} ADT = Average Daily Traffic.

Level of Service Analysis

The reported traffic volumes on the study area streets indicate the importance of these routes to the regional roadway system in South Boston and the Fort Point Channel area, but they give little indication of the quality of traffic flow. To measure quality of flow, intersection capacities were analyzed at 14 locations with respect to the 1981 base traffic volume network and the 1987 No-Build, Preliminary Development Concept and BOSCOM networks. It should be noted that the project's impacts are not confined to these 14 intersections, they simply represent locations where the impacts of the project and alternatives were measured and analyzed.

To measure the operating conditions at the selected intersections, the Level of Service (LOS) was calculated. Level of Service is a qualitative measure of the effect of a number of operational factors including speed, travel delay, freedom to maneuver and safety. The

application of a Level of Service calculation at an intersection essentially present an index of its operational qualities. The Level of Service concept is identical to a grading system where grades (levels of service) range from A to F. In practice, any roadway may operate at a wide range of levels of service, depending on the time of day, day of week or period of year. Level of Service "A" is the optimum condition of free flow where roadway operating conditions are at their best. Level of Service "C", a condition of stable flow, is generally considered desirable for peak or design traffic flow in urban areas. Level of Service "E", on the other hand, represents an unstable flow condition where excessive congestion and delays are prevalent. It is characterized by backups or queues of vehicles waiting to pass through the intersection and long delays. Often, it is necessary to design for Level of Service "D" conditions in heavily traveled or congested urban areas. Level of Service indicators are shown on Figures IV-2 and IV-3 for the base and three alternatives.

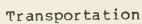
Intersection Capacity Analysis: As described previously, urban arterial traffic operations are usually controlled by the operation of major intersections along the roadway segment. A total of 14 intersections in the traffic study area were analyzed for the eight sets of peak hour traffic volumes:

- 1981 Base AM & PM
- 1987 No-Build AM & PM
- 1987 Preliminary Development Concept AM & PM
- 1987 BOSCOM Alternative AM & PM

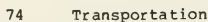
The analyses results indicate that the majority of the intersections within the study area will be able to accommodate the demands placed on them by BOSCOM in the future. During the morning peak hour, only two intersections were found to be operating at or near capacity after adding all development traffic to the 1987 No-Build networks. These two locations include the Broadway Bridge/Frontage Road intersection and Dewey Square (Atlantic Avenue/ Summer Street). During the afternoon peak hour, four intersections would operate at or near capacity. The four locations are: Northern Avenue/ Atlantic Avenue, Congress Street/Atlantic Avenue, Dewey Square, and Broadway Bridge/ Frontage Road.

Capacity Analysis Summary

AM Peak Hour



Capacity Analysis Summary



Mobility Deficiencies: All other intersections were found to operate at acceptable levels of service under all alternatives. However, the critical lane analysis technique describes only part of what is happening on the roadway network. The technique assumes optimal signal timing -- a situation which is not always the case. Further, in the traffic study area, there is a significant amount of illegal parking, particularly on South Boston streets. This has the effect of further reducing traffic flow speeds and increasing congestion. In order to describe these conditions (herein referred to as "mobility deficiencies"), Figures IV-4 and IV-5 were prepared to describe both morning and afternoon peak hour conditions.

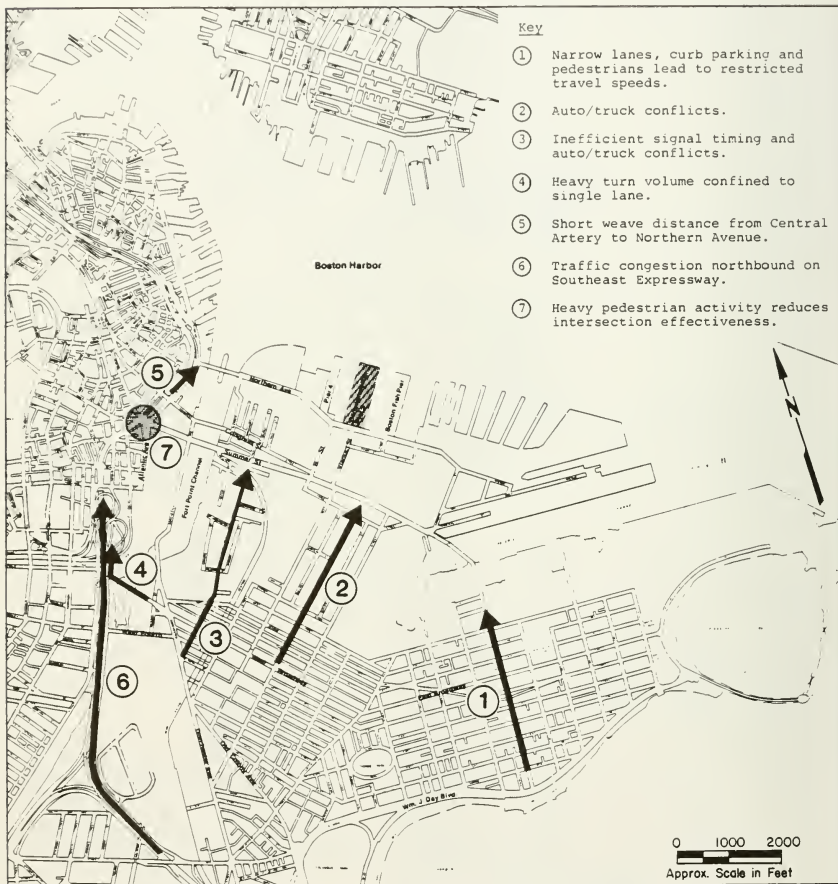
Several of the problem areas shown on the two figures have already been discussed in detail. For this reason, they are only highlighted briefly. Specific deficiencies in the morning include restricted travel speeds due to parking and traffic signal spacing, auto/truck conflicts and resultant congestion on several of the arterials in South Boston (L Street, D Street and A Street). Other deficient areas include the northbound side of the South-east Expressway to the Dewey Square tunnel, right turns from the Broadway Bridge to Frontage Road, pedestrian/auto conflicts in Dewey Square, and the short weave from the Central Artery off-ramp to the Northern Avenue bridge approach.

Afternoon peak hour mobility deficiencies cover basically the same areas, however, the peak travel directions are reversed. Three different deficient locations are identified on the figure: 2-Old Colony Avenue southbound, 5-the Northern Avenue/Atlantic Avenue intersection, and 6-the Central Artery northbound. Traffic flow on Old Colony Avenue is especially heavy during the afternoon peak hour and flow interruptions occur at the traffic signals and from the numerous curb cuts.

Congestion at the Northern Avenue/Atlantic Avenue intersection is a result of two heavy converging streams of traffic passing through this intersection. While a stop sign is posted on the Northern Avenue approach, this control is ineffective during peak afternoon traffic operations. A further complicating factor is the location of an on-ramp to the Central Artery directly opposite Northern Avenue.

Figure IV-4

Mobility Deficiencies - AM Peak Hour



Mobility Deficiencies - PM Peak Hour

Mobility Deficiencies - PM Peak Hour



One final problem is the Central Artery itself. During the afternoon peak hour, the Artery is heavily congested in both directions. Proposed improvements at the Route 1/I-93 merge would result in significant improvements for northbound traffic. Removal of this bottleneck would allow existing traffic to be processed more efficiently resulting in shorter delays and increased speeds.

Parking

Under the BOSCOM proposal, 520 parking spaces are planned inside Commonwealth Pier and approximately 700 spaces will be available on the area outside the building known as Commonwealth Flats. The Preliminary Development Concept initially assumed that it would be possible to design 1,000 parking spaces within Commonwealth Pier. Combined with 700 spaces on Commonwealth Flats, 1,700 off-street spaces would be available under the Preliminary Development Concept.

The following table presents a parking demand breakdown by user category for both build alternatives.

SUMMARY OF DESIGN DAY PARKING SPACE NEEDS

	BOSCOM	Preliminary Development Concept
Administrative Offices	125	80
Service Employees	90	60
Employees/Exhibitors	400	260
Visitors (home arrivals)	175	110
Visitors (hotel arrivals - assumes rental cars)	100	65
Cruise Ship Passengers	125	125
Office Building	-	680
Total Spaces	1,015	1,380

The basic conclusion of the parking analysis is that under the BOSCOM proposal, sufficient parking will be available to meet the projected need. A surplus of approximately 200 spaces will be available on the design day, indicating that additional parking can be accommodated if necessary. Further, on those occasions when there is no cruise ship parking, the 125 cruise ship parking spaces would also be available to meet BOSCOM parking needs.

The analysis of the Preliminary Development Concept indicates that if this alternative were chosen, a surplus of approximately 320 spaces would be available on the design day.

Public Transit System

It was estimated previously that new public transit trips generated by the Preliminary Development Concept or BOSCOM proposals would approximate 392 and 286 daily total riders, respectively. This demand level is for public transit only and does not include the use of a privately run shuttle bus serving BOSCOM and Boston area hotels. The additional ridership on public transit is not expected to place any new burden or hardship on the MBTA bus system.

Construction

During the construction period, it is expected that traffic disruptions will be minimal. There will be some increased truck activity, however major shows and exhibitions will not take place, resulting in a negligible impact.

MITIGATION MEASURES

The third phase of the traffic study was the identification of mitigation measures necessary to minimize the traffic and parking impact of the project. The analysis of traffic impacts indicated that under the BOSCOM proposal, approximately 2,350 auto trips will be generated by the proposed project. While this project's impact is relatively small when compared to existing daily traffic and other projected background traffic, several mitigating measures were investigated to help reduce the project's traffic impact. The following section briefly describes several mitigating measures which were studied including measures previously proposed by others.

- o FMR Properties and Massport will provide shuttle bus service between BOSCOM and major hotels in Boston. This service would primarily serve BOSCOM employees and visitors staying at area hotels.
- o MBTA Routes 6 and 7 should be improved by increasing peak hour frequencies to 10-minute headways. This improvement by the MBTA will also serve to improve accessibility to other abutters and provide further encouragement for BOSCOM employees to use existing transit service.
- o Marketing information and brochures provided to prospective Commonwealth Pier visitors should include details of how to get to Commonwealth Pier. Information should be provided on the availability of the hotel shuttle bus service as well as MBTA service in a manner similar to the Logan Airport brochure prepared by Massport. In addition, Massport and FMR Properties will work together to minimize traffic use of residential streets in South Boston. To this end, street maps indicating optimum routes to BOSCOM will show access via major non-residential arteries.
- o It is suggested that the BOSCOM administration develop a close working relationship with the operators of the hotel proposed for Piers 1, 2 & 3. Such a relationship could include the reservation of large blocks of rooms during major BOSCOM shows. By locating out-of-town employees and visitors in the Pier 1, 2, 3 Hotel, peak hour vehicular travel across the critical Fort Point Channel crossings could be reduced. Another available option is the operation of a courtesy van connecting the two buildings.
- o Parking should be managed to discourage employees from driving to Commonwealth Pier. It is suggested that permanent employees be required to park outside of the building in a separate long-term parking area. Provisions could be made for carpoolers, possibly including reserved parking spaces within Commonwealth Pier. Cruise ship parking should also be provided in a distinct parking area. Short-term visitor parking could be provided both within the building and outside. Additionally, reserved spaces will be required for hotel guests and restaurant visitors.

- o An important mitigating measure would be the construction of intersection improvements to be made on the Congress Street eastbound approach to Atlantic Avenue. This improvement is primarily required due to the increased pressure on this intersection caused by projected background traffic. FMR Properties will coordinate with other developers and public officials in the area to make any roadway improvements.
- o Throughout the analysis, it was assumed that BOSCOM would operate between 9:00 AM and 9:00 PM. By having a later opening of 10:00 AM the impact on morning peak hour traffic would be significantly reduced. Likewise, the impact on afternoon peak hour traffic would be shifted to the following hour, resulting in a significantly smaller traffic impact. For this reason, it is suggested that this option be considered carefully by FMR Properties to determine its feasibility.
- o Water taxi service to connect Logan Airport, Commonwealth Pier and Long Wharf has also been proposed by others and represents a possible mitigating measure. Because of the nature of BOSCOM's shows, a direct connection between Logan and Commonwealth Pier would only have a significant impact on the day preceding the start of a major show, since this is typically when the majority of visitors arrive. However, as continued activity occurs downtown, on Piers 1, 2, and 3, and at Bird Island Flats, the water taxi option will be studied in greater detail.
- o Construction traffic impacts will be mitigated by a combination of techniques. Specific truck routes will be designated to avoid impacts on residential areas. When necessary to close portions of streets for utility work, all attempts will be made to maintain two-way traffic flow to minimize delays and congestion. Additionally, police officers will be present to direct traffic through construction areas. Finally, Commonwealth Flats will be used to provide parking for construction workers.

RESPONSE TO MEPA REPORT
ON TRAFFIC IMPACTS

A series of comments were received from the MEPA Unit regarding the traffic analysis in the Commonwealth Pier Draft Environmental Impact Report. The following pages summarize the comments and include a detailed response to each one. The specific comments are included in their entirety in Chapter VII in this report.

Comment No. 1

"While a comprehensive description of traffic generation from development in the area over the period 1982-1987 is included, any allowance for development at South Station is not included in the analysis....To correct the situation, the Boston Redevelopment Authority, which has overall planning responsibility for the South Station area, should provide information to Massport and its consultants, so that the amount of 1987 traffic generation from South Station alone can be assessed. At a minimum, the reader should have this information to assist in evaluating the significance of the Draft EIR traffic analysis including or excluding the effects of South Station development."

Response

The Boston Redevelopment Authority (BRA) was contacted concerning the South Station Redevelopment Project and has provided information regarding project status, construction timetable and traffic generation. (See letter - p.94)

The proposed air rights office/light industrial project will not be completed until some time beyond 1987, according to the BRA.

Because the Bus Terminal Construction phase of the South Station Project primarily involves a replacement parking facility, it is the BRA's position that there will be no net increase in traffic.

The BRA stated the following portions of the South Station project will be operational by 1987:

- o Railroad station
- o Bus terminal

- o 500-space parking deck above bus terminal
- o New ramp connections to/from the Southeast Expressway/Mass. Turnpike
- o Modifications to surface street system including making Essex Street two way and creating a new one-way circulation system.

This will result in some added traffic at the South Station terminal exits. However, the proposed modifications to the surface street system have been developed so that no additional traffic would be added to the Summer Street/Atlantic Avenue intersection. Because of the changes to the surface street configuration and operations, some traffic will be shifted on several local streets. Under the new roadway configuration, most of the left turns now made from Summer Street eastbound would be replaced by a through movement on Atlantic Avenue. BRA figures show no net increase in the amount of traffic at the Atlantic Avenue/Summer Street intersection or on Atlantic Avenue northbound in front of the Federal Reserve Building.

It is for all these reasons that no additional traffic was forecasted at the study area intersections as a result of the South Station project through 1987. As part of the intersection analysis for the Commonwealth Pier EIR, the number of left turns from Summer Street to Atlantic Avenue northbound was not reduced and was not relocated to Atlantic Avenue. This creates a more conservative analysis since left turns are more difficult to complete and take more time on a traffic signal cycle. Further, the amount of heavy pedestrian activity and interference with traffic flow was considered during the analysis of this intersection (also see response to comment 2.)

It should also be pointed out that the City of Boston, through the BRA, is in the process of developing a TSM (Transportation System Management) Plan for the entire Dewey Square area. 1987 has been chosen as the horizon year for this detailed analysis which will include design of roadway improvements in the area including HOV lanes (high occupancy vehicles), preferential signal phasing and improved pedestrian flow.

Comment No. 2

"While some of the traffic from the South Station garage and bus station will be utilizing ramp connections to the Central Artery and Southeast Expressway, other traffic movements will be required to use surface streets. Furthermore, heavy pedestrian traffic to and from South Station will affect the traffic signal time available for surface traffic flow."

Response

In conducting the intersection analysis at the Atlantic Avenue/Summer Street intersection, it became apparent that calculated levels of service would be significantly higher than observed if only traffic volume data was used. This is primarily due to heavy concentrations of pedestrian activity, particularly during the peak hours. The current five-phase signal operation and timing allows pedestrian crossings to be made on all four approaches without interference from turning vehicles. It is not an exclusive pedestrian phase, rather, traffic is moving on at least one approach at all times. During the periods of heavy pedestrian traffic, the pedestrian indications are virtually ignored, simply due to the large numbers of pedestrians. This fact causes a significant reduction in the auto traffic carrying capacity of the intersection. To take into account this reduction in capacity, the level of service criteria applied to this intersection were reduced by 30 percent based on empirical observations. The results indicate Level of Service E operations at this intersection in 1987 under any of three alternatives studied. The analysis of the BOSCOM alternative indicates volume/capacity (V/C) ratios of 0.96 and 0.98 for the AM and PM peak hour design conditions. The result is that the intersection will be significantly congested and delays to drivers will be prevalent. Again, this is primarily due to the auto/pedestrian conflicts rather than the volume of traffic alone. One final note: the amount of Commonwealth Pier traffic expected to use this intersection is minimal.

Comment No. 3

"The second major omission is the failure to consider the effects of traffic growth on the Central Artery, despite the specific wording of the scope: "The minimal study area should include ... critically impacted areas, particularly the Central Artery from High Street and Northern Avenue to Southampton Street." This analysis was not included in the Draft EIR. Because the Central Artery includes the key flow constraints (or bottlenecks) in the system, this omission is significant. The final EIR must deal with the traffic growth impacts on the Central Artery."

Response:

Based on a clarification letter on comment 3, the primary concern of MEPA is the identification of critical locations on the Central Artery impacted by Commonwealth Pier and other new development traffic. The areas that would be most impacted by the Commonwealth Pier redevelopment project include the Northern Avenue/Atlantic Avenue intersection and associated on/off ramps with the Central Artery; and the southbound on-ramps with the Central Artery at Purchase and Congress Streets.

Traffic Increases - The Northern Avenue/Atlantic Avenue intersection functions as a congestion point (or bottleneck) due to the two conflicting heavy uncontrolled traffic streams which come together at this intersection. The problem is further complicated by the fact that the Central Artery has both on - and off-ramps at this location. Another factor that also significantly impacts this intersection is the observation that during the afternoon peak hour, approximately 322 drivers get off the Artery in the Dewey Square Tunnel at the Atlantic Avenue/Northern Avenue exit and then immediately rejoin the Artery on the Northern Avenue on-ramp. This shortcut contributes significantly to the traffic using the northbound on-ramp during the peak hours, accounting for approximately 24 percent of the ramp's total volume.

The following table was prepared to show the projected traffic volume increases on the ramps most impacted by development on the eastern side of the Fort Point Channel. Existing PM peak hour volumes are reported for each, followed by the projected increases in background traffic and Commonwealth Pier traffic. During the afternoon peak hour, the total volume on the northbound on-ramp would increase by a total of 324 vehicles, 77 of which would be

Figure IV-6**Central Artery PM Peak Hour
Traffic Increases**

	Existing Volume	Background Traffic Increase	Commonwealth Pier (BOSCOM) Traffic Increase	Total Increase by 1987
<u>Northbound</u>				
Northern Ave. Off-Ramp	1,873 ^{1/}	354	30	20.5%
Northern Ave. On-Ramp	1,359 ^{2/}	247	77	23.8%
<u>Southbound</u>				
Combined Total Southbound On-Ramp Traffic ^{3,4/}	1,620	205	53	12.7%

^{1/} Total volume including traffic bound for High Street and Surface Artery. Volume data collected January 1980 and June 1981 by Vanasse/Hangen.

^{2/} June 1981 count by Vanasse/Hangen.

^{3/} Depending on the level of congestion on the Central Artery and the Purchase Street on-ramp, drivers may choose to bypass the Purchase Street ramp and enter the Artery on the Congress Street ramp.

^{4/} Based on the "Boston Central Artery 1977 Origin-Destination Study", Tippetts-Abbott-McCarthy-Stratton, November 1978, The Purchase Street on-ramp carries 700 vehicles during the PM peak hour and the Congress Street on-ramp carries 920 vehicles in the PM peak hour.

generated by the BOSCOM project. The result of this 324 vehicle increase is a 23.8 percent increase in traffic on the northbound on-ramp over existing volumes. Similarly, total volume of traffic on the NB off-ramp is projected to increase by 384 vehicles, of which 30 will be generated by Boscom. Therefore, traffic on the Northern Avenue off-ramp will increase by approximately 20.5 percent during the afternoon peak hour due to the addition of 384 vehicles.

On the southbound side of the Artery, two ramps are available for use by southbound development generated traffic. These ramps are the Purchase Street and Congress Street southbound on-ramps.

It is anticipated that a total volume of 205 additional vehicles would use these two ramps as a result of all the planned background development. The Commonwealth Pier project would add another 53 southbound vehicles to the two ramps. Overall, taking the two ramps together, southbound traffic destined for the Artery will increase by approximately 12.7 percent.

Impact on the Central Artery - During the afternoon peak hour, the Northern Avenue/Atlantic Avenue intersection currently operates at capacity for a portion of the hour. During this time, a significant queue builds up across the Northern Avenue bridge, occasionally reaching as far back as the entrance to the Piers 1, 2 and 3 parking lot. This queuing is due to the fact that Atlantic Avenue operates under generally free flow conditions while Northern Avenue operates under stop control. At the same time, the queue buildup on the northbound on-ramp to the Central Artery generally fills up approximately one-third of this 750 foot long ramp. Vehicles stack in two lanes and the capacity of this ramp is restricted by the merge with the Central Artery. If a queue exists over the course of an entire hour (as it does on the northbound on-ramp), any additional traffic on the ramp would add to the queue since it could not be processed due to downstream congestion.

Theoretically, all of the new additional traffic destined for the on ramp would add to the queue of vehicles waiting to be processed. This is not likely to happen, however, for three reasons: 1) The Northern Avenue/Atlantic Avenue intersection currently functions as a capacity constraint for traffic on the Northern Avenue approach, 2) in response to traffic congestion, many drivers alter their routes to travel the route of least resistance and 3) drivers shift their arrival and departure times to avoid periods of peak

congestion. In addition, two major physical changes which will affect traffic operations are also being made at the Northern Avenue intersection. The relocation of the Northern Avenue bridge and the installation of a traffic signal will do two things: 1) it will lengthen the storage area for vehicles queuing on the northbound on-ramp by approximately 150-200 feet and 2) it will increase delays and introduce queuing to both Atlantic Avenue and the northbound off-ramp.

What will likely happen then, in our opinion, is a combination of an increase and lengthening of the peak hour traffic congestion and a shift in traffic volumes.

It is expected that a shift in traffic volumes on the on-ramp will occur. As stated previously, there is an afternoon peak hour demand by 322 vehicles who exit the Central Artery at Northern Avenue and then immediately rejoin the Artery via the Northern Avenue on-ramp. With the installation of a signal at the intersection, it is expected that this movement would no longer take place due to the new delays introduced by the signal. These vehicles would instead remain on the Artery and as a result would reduce the effective ramp/merge capacity. Assuming the 322 vehicles are spread over the three Central Artery northbound lanes, the ramp/merge capacity could be expected to decrease by approximately 100 vph.

Other possible shifts in northbound traffic volumes could occur along several alternate routes. One alternative route is to use Atlantic Avenue and Commercial Street as a northbound bypass to City Square in Charlestown where regional connections can be made. A second, although less desirable option would be to use the Surface Artery, Market Street and North Street to access the Central Artery Northbound at the Sumner Tunnel on-ramp. Other routes also exist. Another change that may take place is that northbound traffic on Atlantic Avenue may choose to use the Congress Street on-ramp to the Artery, rather than pass through another signal at Northern Avenue. It is difficult to determine exact vehicle routings because of the variability in traffic conditions on the Central Artery and the surface street system. Traffic conditions are clearly a function of a number of factors including, but not limited to: accidents or breakdowns, illegal parking and pedestrian crossings, the weather, the time of day and season. As a worst case analysis, the only shift assumed was the Northern Avenue off-ramp to on-ramp short cut.

The installation of a signal at this intersection will have other impacts as well. The queue buildup under current traffic control primarily occurs on Northern Avenue. The installation of a new signal will result in a spreading of delay to the other intersection approaches. To determine the specific impact of the proposed development on operations at this intersection, a detailed analysis was conducted. It should be noted that this analysis includes the traffic impact of all the background development identified previously including BOSCOM. The following assumptions were made:

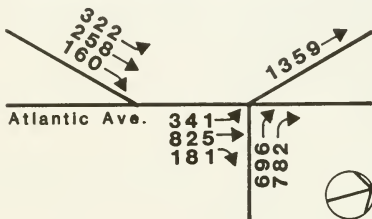
- The average queue on the northbound ramp is one-third of the ramp length. Therefore, the average queue is two lanes which are 250 feet long and contain a total of 20 vehicles.
- The existing critical lane volume at the Northern Avenue/Atlantic Avenue intersection is 1,287 vehicles under the current configuration, assuming simple two-phase operation.
- The existing critical lane capacity is 1,500 vehicles, assuming two-phase operations and planning criteria.
- The existing residual capacity is therefore a critical lane volume (CLV) of 213 vehicles.
- In 1987, the critical lane capacity will decrease to 1,425 vehicles as a result of the installation of a three-phase signal.
- The existing 322 vehicles currently using the northbound ramps as a bypass of the Central Artery were assumed to remain on the Artery rather than pass through the proposed signalized intersection at Northern Avenue.

The analysis indicated that by relocating the shortcut traffic to the Artery, the capacity of the northbound ramp merge with the Central Artery would be reduced by approximately 100 vehicles/hour (assuming an even distribution over the three northbound lanes of the artery). If it is assumed that the current ramp volume represents a capacity condition, then the maximum ramp volume in 1987 would be approximately 1,260 vehicles. The 1987 No-Build demand on the ramp includes existing plus background development traffic and is estimated to be 1,284 vehicles during the PM peak hour. With a new ramp capacity of 1,260 vehicles

Figure IV-7

**Northern Avenue/Atlantic Avenue Intersection
1981 Base and 1987 No-Build Conditions**

Existing Capacity Analysis



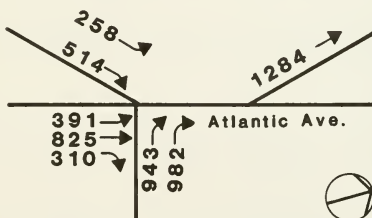
$$\sum \text{CLV} = 1287$$

$$V/C = 0.86$$

Parameters

- 1981 PM PEAK HOUR BASE VOLUMES.
- AVG. RAMP QUEUE IS 1/3 RAMP LENGTH OF 750' OR 20 VEHICLES.
- EXISTING SUM OF CRITICAL LANE VOLUMES = 1287; 2 ϕ CRITERIA.
- EXISTING CAPACITY = 1500 CLV.
- RESIDUAL CAPACITY = 213 CLV.

1987 No Build Capacity Analysis

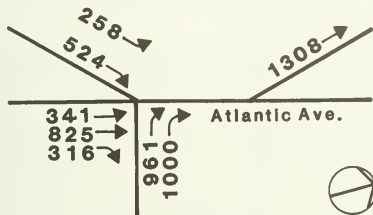


$$\sum \text{CLV} = 1398$$

$$V/C = 0.98$$

Parameters

- 3 ϕ SIGNAL.
- CAPACITY = 1425 CLV.
- RESIDUAL CAPACITY = 138 CLV. OVER EXISTING.
- ACTUAL RAMP VOLUME DECREASES DUE TO REASSIGNMENT OF 322 FORMER SHORTCUTTING VEHICLES.
- ASSUME 322 FORMER SHORTCUTTING VEHICLES ARE REASSIGNED ACROSS EACH OF THE 3 CENTRAL ARTERY LANES, REDUCING RAMP CAPACITY BY APPROXIMATELY 100 VEHICLES.
- 25 MORE VEHICLES WILL ADD TO MAXIMUM QUEUE OR APPROX. 300 FEET PER LANE. TOTAL QUEUE 550' ON TWO LANES.

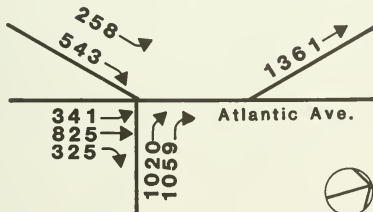
Figure IV-8**Northern Avenue/Atlantic Avenue Intersection
1987 Build Conditions****1987 Theoretical Capacity**

$$\sum CLV = 1425$$

$$V/C = 1.00$$

Parameters

- THEORETICAL CAPACITY DEVELOPED BY ALLOCATING REMAINING V/C OF 0.02 TO EACH APPROACH BY CRITICAL LANE.
- RESULT IS 24 ADDITIONAL QUEUING VEHICLES; 12 PER LANE OR 300 ADDITIONAL FEET.
- TOTAL QUEUE = 850' MAX.
- INTERSECTION CAPACITY IS REACHED BEFORE ON-RAMP BACKS UP THROUGH INTERSECTION.

1987 Build Capacity Analysis

$$\sum CLV = 1467$$

$$V/C = 1.03$$

Results

- ONCE INTERSECTION REACHES CAPACITY, ADDITIONAL VOLUME QUEUES ON EACH APPROACH.
- MAXIMUM QUEUES = AVG. QUEUE PLUS ADDITIONAL VOLUME WHICH CANNOT BE ACCOMMODATED.
- MAX. QUEUES FOR EACH APPROACH ARE:
 - ARTERY OFF-RAMP 23 VEHICLES/LANE.
 - NORTHERN AVE. 60 VEHICLES/LANE.
 - ATLANTIC AVE. 16 VEHICLES/LANE.

and a demand by 1,284 vehicles, the existing queue would be extended by 24 vehicles. Assuming that the volume adds evenly to the two lanes, the queue would extend back another 300 feet. The total queue length would then be 550 feet long on two full lanes and would fill 75 percent of the existing ramp.

The next step in the analysis was to determine the capacity volumes at the intersection. Since the intersection will function at $V/C = 0.98$ for the No-Build condition, there is still 2 percent of the capacity available to accommodate additional traffic. By allocating this additional traffic on a critical lane basis, the ramp demand would increase to 1,308 vehicles. This represents an additional 24 vehicles which would add to the queue waiting to enter the Artery. At a ramp volume of 1,308 vehicles, the intersection of Northern Avenue with Atlantic Avenue will reach capacity and no additional traffic would be able to clear the intersection to add more traffic to the queue. The 24 vehicles which bring the ramp volume up to 1,308 vehicles would add another 300 feet of queue, creating a total queue length of 850 feet. Since the Northern Avenue Bridge relocation will add 150-200 feet of storage to the existing ramp length of 750 feet, the analysis indicates that the maximum queue on the ramp would not reach the relocated Northern Avenue/Atlantic Avenue intersection. This means that the ramp should not back traffic up into the intersection. It also means that both the ramp and the intersection will operate at capacity during the PM design hour. Any additional volumes which add to the intersection would result in queuing on the intersection approaches. It is estimated that Northern Avenue would experience the largest queues, a maximum queue of approximately 60 vehicles per lane while Atlantic Avenue would experience relatively short queues of 16 vehicles per lane. The northbound off-ramp would experience a queue of approximately 23 vehicles per hour per lane.

The impact on the Central Artery Southbound will be smaller, primarily as a function of the projected traffic volumes in Figure IV-6 shown earlier. It is not expected that the southbound traffic will significantly affect queuing on either ramp. Traffic on the two southbound ramps has a tendency to equalize -- if one ramp is heavily congested, the other is used by drivers to bypass that congestion. Many drivers will avoid the Purchase Street on-ramp and take the Congress Street ramp instead. As a result, since two ramps are available and the projected traffic increases on the Artery Southbound are relatively small, the effect of the Commonwealth Pier project on the Artery southbound will be minimal.

Comment No. 4

"Several improvements to the roadway system are listed in Figure A-14 on Page 145 (of the Draft EIR). Do any of them have any effect on traffic flow, particularly in dealing with traffic bottlenecks?"

Response

Figure A-14 in the DEIR was prepared after an extensive investigation of proposed roadway projects in the study area. It lists four projects which are expected to be constructed by 1987. The Northern Avenue bridge relocation and the Reserved Channel bridge upgrade are seen as bridge repair and replacement projects and are not expected to offer any real relief to traffic bottlenecks. The proposed signalization of the relocated Northern Avenue/Atlantic Avenue intersection does offer the benefit of providing for a safer and more orderly flow of traffic than currently exists. It does not, however, offer any increase in terms of roadway capacity. The Broadway/Dorchester Avenue intersection improvement is aimed at creating a safer environment for pedestrians and bus passengers and will not offer a significant traffic flow improvement. The Atlantic Avenue/Summer Street intersection improvement is also minor in nature and will not offer a significant traffic flow improvement. As stated previously, other changes beyond the limits of the study area will have an effect on traffic flow in the South Station area. These changes being studied as part of the Dewey Square TSM project include: (1) new ramp connections between Atlantic Avenue and the Central Artery/Massachusetts Turnpike; (2) two-way Essex Street; and (3) circulation changes to the Surface Artery and adjacent streets.

Boston Redevelopment Authority

September 2, 1982

Ms. Roslyn Watson
Project Manager, Commonwealth Pier
Massport
99 High St.
Boston, MA 02110

Dear Ms. Watson:

In response to your request for information relative to the Final EIR on Commonwealth Pier, I am forwarding the following summary of our plans and traffic analyses related to the new South Station Transportation Center.

Traffic Generation at South Station, 1987

The following statements summarize the construction schedule and traffic generation assumptions for the new South Station Transportation Center.

1. The current construction schedule calls for:

1982 - 1985	Track Work
1985 - 1987	Bus Terminal Construction
1987 - 1990	Air Right Construction (hotel, office, light industrial)
2. Therefore, the project in 1987 will consist of:
 - o Railroad Station
 - o Bus Terminal
 - o 500-car parking deck which serves as the roof of the Bus Terminal
 - o Direct ramp connections for South Station to the Southeast Expressway and Turnpike

Completion of the other air rights development is expected after the Commonwealth Pier target year of 1987.

3. The latest accepted traffic analysis of this complex is the South Station EIS prepared by De Leuw Cather, from which the mitigated traffic, full-build option was selected.

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4. The traffic management system chosen as a result of the EIS studies calls for the following primary mitigation measures:
 - o Retention of the northbound on-ramp adjacent to the new Dewey Square office tower and access to that ramp from Atlantic Avenue via a two-way Essex Street.
 - o A new roadway system which will intercept northbound traffic south of Dewey Square and reroute it via Atlantic Avenue, therefore significantly reducing left turns from Summer Street to Atlantic Avenue northbound. These left turns will be replaced by a through movement on Atlantic Avenue.
5. Construction of the 500-car garage will require removal of a like number of parking spaces elsewhere in that area. Current plans call for removal of the Bedford Kingston garage which provides over 600 spaces.
6. Based upon the above, traffic at the intersection of Summer Street and Atlantic Avenue is expected to show no net increase from completion of the South Station project to 1987.

Please feel free to contact me for further clarification, if necessary.

Very truly yours,



Matt Coogan
Project Coordinator for South Station

2774A

Air Quality

PURPOSE

The objective of the Air Quality Analysis is to determine whether the proposed Commonwealth Pier Redevelopment Project will affect the attainment or maintenance of Massachusetts and National Ambient Air Quality Standards (NAAQS) for carbon monoxide (CO) as requested in the EIR scoping memorandum. The standards, summarized in Figure IV-9, established by the Federal Clean Air Act, are designed to protect both public health and welfare. To demonstrate compliance, it is necessary to identify those areas of human activity (sensitive receptors) exposed to maximum air pollutant levels from motor vehicle emissions in the project area. Using air quality modeling techniques, CO levels are estimated at these sensitive receptors for all project alternatives in the present and future years. Comparison of projected pollutant levels to the NAAQS permits evaluation of whether motor vehicle emissions related to the proposed development will affect public health or welfare.

POLLUTANT SOURCES AND EFFECT

The significant source of project-related air pollution is from motor vehicles visiting the project site. Of the seven pollutants regulated by the NAAQS, five are emitted by motor vehicles or formed from their emissions: carbon monoxide (CO), nitrogen oxides (NO_x), non-methane hydrocarbons (NMHC), ozone (O_3), and lead (Pb). Carbon monoxide is used in this analysis as an indicator of roadway air pollution levels, as it is the abundant and persistent pollutant emitted by motor vehicles, and its nonreactive properties allow pollutant transport and dispersion to be modeled.

The adverse health effects of CO are a result of its combination with blood hemoglobin to form carboxyhemoglobin (COHb). This compound interferes with the life-sustaining transfer of oxygen from the lungs to the body tissues and the return of carbon dioxide from the tissues to the lungs. The presence of relatively small amounts of CO results in significant interference with essential cardiovascular - respiratory functions. Relatively brief exposure to high levels can impair time interval discrimination, visual acuity, and other psychomotor functions.

National Ambient Air Quality Standards (NAAQS) for CO have been set by the U.S. Environmental Protection Agency (EPA); these are presented in Figure IV-9. Standards for the Commonwealth of Massachusetts are

Massachusetts and National Ambient Air Quality Standards (NAAQS)

Pollutant	Averaging Time (1)	Primary(2) Standards	Secondary(3) Standards	Level of Significant Ambient Impact (4)
Carbon Monoxide (CO)	8 hours	10 mg/m ³ (9 ppm)	Same as Primary	0.5 mg/m ³ (0.5 ppm)
	1 hour	40 mg/m ³ (35 ppm)		2 mg/m ³ (1.8 ppm)

- 1 Not to be exceeded more than once per year.
- 2 National Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.
- 3 National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
- 4 43 Federal Register 26398, "Prevention of Significant Air Quality Deterioration: State Implementation Plans; Modeling", June 19, 1978.

identical to the Federal standards. The primary standards are intended to protect the public health, while secondary standards are designed to protect the public welfare from any known or anticipated effects. The target date for attainment of national primary and secondary standards is December 31, 1982. If states cannot attain the CO and O₃ standards by this date through the use of all reasonably available control measures, an attainment date of December 31, 1987 applies. Identical for primary and secondary, the CO standards set a maximum concentration of 35 ppm for a 1-hour period and 9 ppm for 8 hours, each not to be exceeded more than once per year. The EPA is currently reviewing the scientific, technical and medical basis for these standards.

AMBIENT AIR QUALITY

Ambient air quality is usually determined by monitoring. However, no state monitoring station exists proximate to the site. Background levels of CO for 1982 were determined by the Massachusetts Department of Environmental Quality Engineering (DEQE)¹ to be 5.0 ppm (1-hour average) and 3.0 ppm (8-hour average). These values are consistent with levels assumed in EIR's for other projects in the Boston urban core area. Background levels for this project represent CO emissions from all sources except the roadways that cross at the intersections that were analyzed.

METHODOLOGY FOR ESTIMATING AIR QUALITY

The technical approach used to predict ambient air quality was specified in advance by the Massachusetts DEQE¹. The analysis calculated maximum 1-hour and 8-hour CO concentrations at sensitive receptors near three key intersections in the project area for four cases:

¹ Personal communication, Ms. Heidi O'Brien, Massachusetts Division of Air Quality Control, DEQE, Boston, MA, August 30, 31, and September 1, 1982.

<u>Case No.</u>	<u>Year</u>	<u>Development Alternative</u>
1	1982	Existing
2	1987	No-Build
3	1987	BOSCOM Alternative
4	1987	Preliminary Development Concept

In all cases, the EPA Indirect Source Guideline¹ technique was used to predict concentrations at the intersections, supplemented by a set of assumptions specified at the DEQE. These assumptions include an ambient air temperature (December) of 33°F, and worst case meteorological conditions of Pasquill-Gifford Class D stability in conjunction with 1 m/s wind speed. The worst case wind direction was determined separately for each intersection and case, and a wind direction persistence factor of 0.8 was used for 8-hour concentrations. An initial vertical dispersion of 5.0 m was assumed. Meteorological data are appropriate for a December afternoon and evening corresponding to the expected time of peak traffic volumes in the project area. The conservative assumption was made that the background levels of 5.0 ppm (1-hour) and 3.0 ppm (8-hour) will not decrease from 1982 to 1987.

The analysis utilized peak 1-hour and 8-hour traffic volumes for the design day. The peak hour occurs during the evening rush hour for all roadways analyzed. Peak 8-hour volumes were estimated by applying reduction factors to the peak 1-hour volumes. The factors were derived from on-site counts and are listed below:

1 EPA, Guidelines for Air Quality Maintenance Planning and Analysis Volume 9 (Revised): Evaluating Indirect Sources, Second Printing, EPA-450/4-78-001, Research Triangle Park, NC, September 1978.

	<u>Ratio of Average Hour of the Peak 8-Hour to the Peak 1-Hour</u>
Northern Avenue	0.73
Atlantic Avenue and Off-Ramp	0.79
Congress Street	0.82
D Street and West Broadway	0.78

All traffic volume data are presented in the Transportation Section of this report. Motor vehicle emissions were calculated with the EPA MOBILE2 computer program¹ and are detailed in Appendix 3. Emission calculations assumed national average values for motor vehicle mix by type and the percentage of cold and hot starts with two exceptions. First, the Massachusetts registration distribution for light duty vehicles was employed, along with actual traveling speeds for project area roadways. Second, cold and hot start percentages of 50% and 10% were assumed for the peak hour. Emission rates used in this analysis are conservative because no Inspection and Maintenance program for vehicles was assumed, even though Massachusetts is scheduled to implement a program in April, 1983.

SENSITIVE RECEPTORS AND ROADWAY GEOMETRY

The Commonwealth Pier Redevelopment Project is planned for Pier Five located on the north side of Northern Avenue in South Boston. The site will be accessed from downtown Boston and beyond, primarily by Northern Avenue over the Northern Avenue Bridge. It is expected that only a small amount of traffic will access the site through South Boston residential neighborhoods. At a meeting held on August 6, 1982, DEQE and MEPA determined that the three key intersections in the roadway analysis requiring an air quality analysis are:

1. Northern Avenue/Atlantic Avenue
2. Congress Street/Atlantic Avenue
3. D Street/West Broadway

1 EPA, User's Guide to MOBILE2: Mobile Source Emissions Model, EPA-460/3-81-006, Ann Arbor, MI, February, 1981.

Since CO emissions are greatest at roadway intersections due to vehicle idling, acceleration, and deceleration, sensitive receptors were selected for each of the three key intersections. The receptor locations were chosen to be consistent with the recommendations in the EPA Guideline¹, namely: 1) where maximum CO concentrations are likely to occur (i.e. adjacent to intersection vehicle queues), and 2) where the general public is likely to have access. The locations of these receptors were approved in advance by DEQE² and are illustrated in Figures IV-10 through IV-13. A description of each sensitive receptor is as follows:

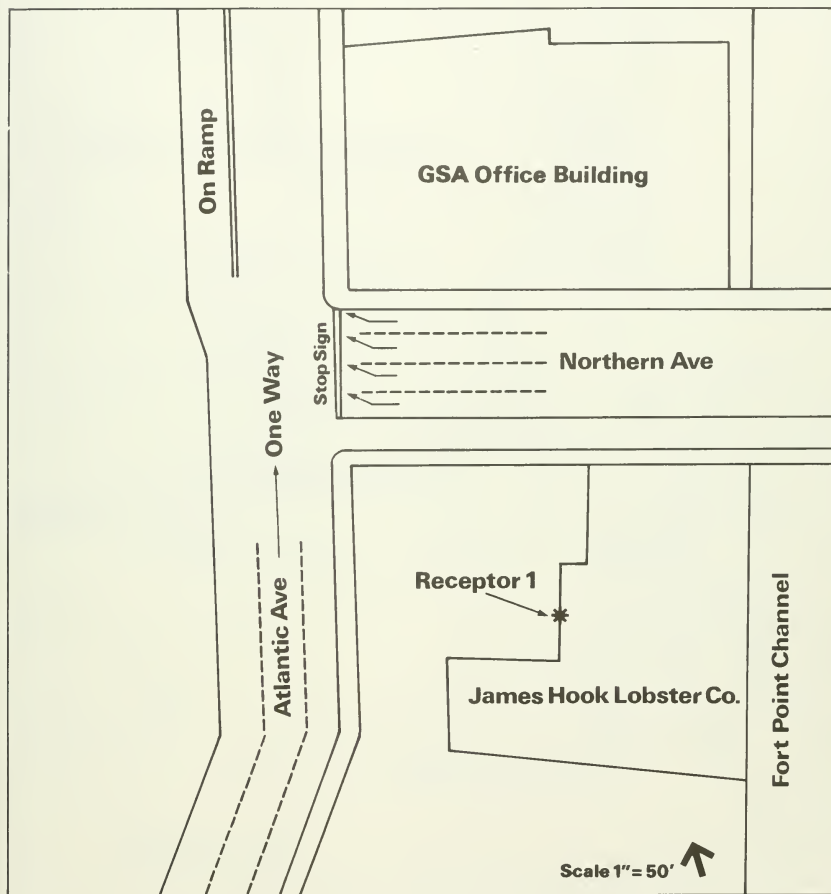
1. On the east side of Atlantic Avenue at its intersection with Northern Avenue, along the entrance to the James Hook Lobster Company. Note that even though Northern Avenue will be relocated between 1982 and 1987, the location of this receptor remains fixed, as shown in Figures IV-10 and IV-11.
2. On the northeast corner of the intersection of Atlantic Avenue and Congress Street at the entrance to IFR Furniture Rentals.
3. On the northeast corner of the intersection of D Street and West Broadway at the entrance to the nearest residence at 299 West Broadway.

Figures IV-10 through IV-13 are drawn to scale and summarize the source-receptor geometry of each intersection analyzed for CO concentrations. A stop on Northern Avenue controls the existing intersection with Atlantic Avenue. Estimation of cross-street capacity at this intersection used the Poisson distribution with a 3.5 second critical gap and considered the number of lanes of conflicting traffic on Atlantic Avenue for each lane approach on Northern Avenue. The 3.5 second gap is based on observations made at the Northern Avenue/Atlantic Avenue intersection of the traffic

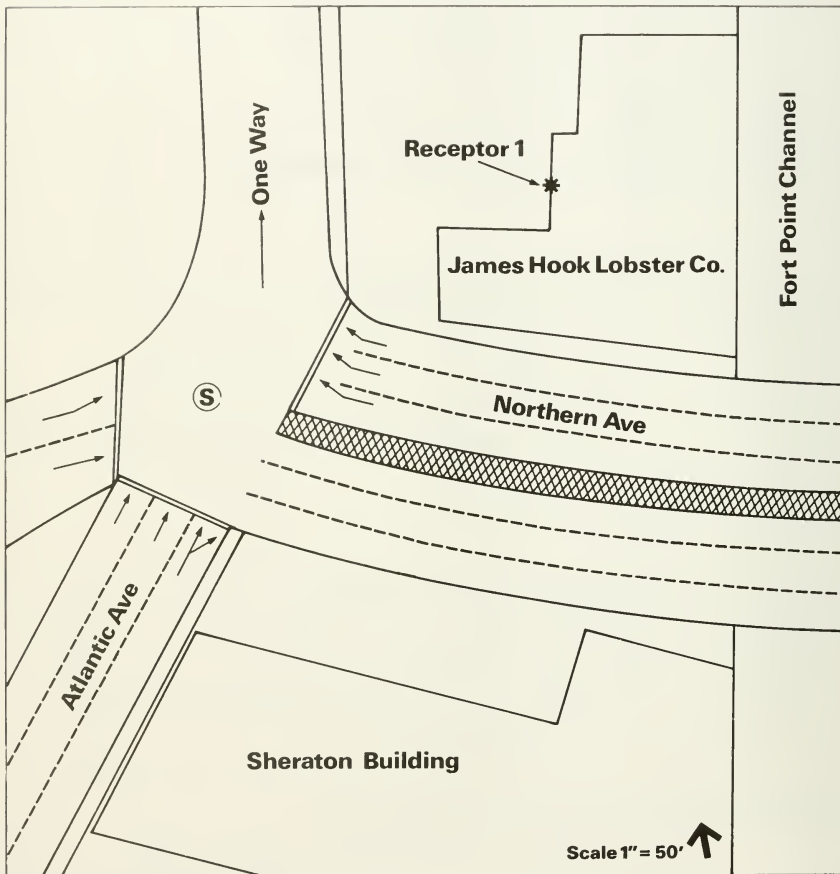
1 EPA, Guidelines for Air Quality Maintenance Planning and Analysis Volume 9, (Revised): Evaluating Indirect Sources, Second Printing, EPA-450/4-78-001, Research Triangle Park, NC, September 1978.

2 Personal communication, Ms. Heidi O'Brien, Massachusetts Division of Air Quality Control, DEQE, Boston, MA, September 7 and 9, 1982.

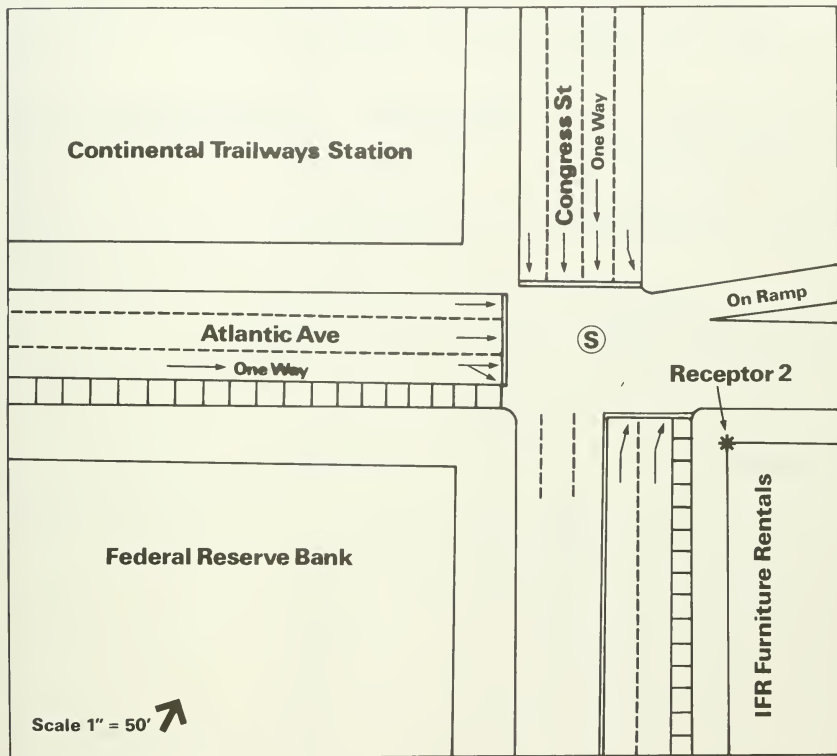
Receptor Location No.1 (Case 1) Northern Ave./Atlantic Ave



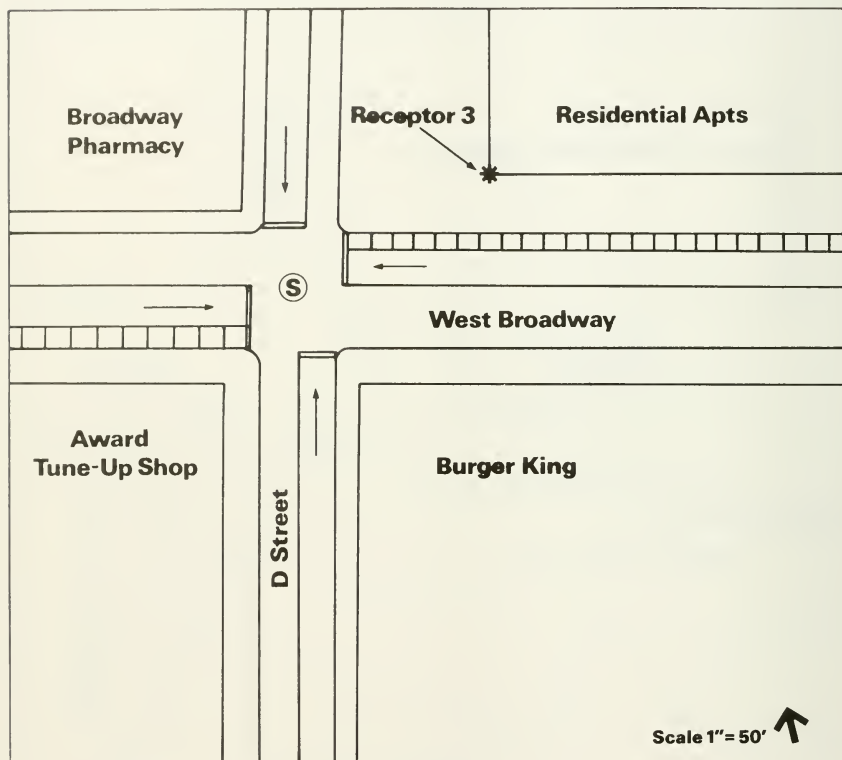
Receptor Location No.1 (Case 2,3,&4) Northern Ave/ Atlantic Ave



Receptor Location No. 2 Congress St/Atlantic Ave



Receptor Location No. 3 D Street/West Broadway



volume actually serviced during the peak hour. All other intersections are signalized, including the new Northern Avenue/Atlantic Avenue intersection in 1987. Signal phasing is noted on the Worksheets in Appendix 4.

PROJECT ALTERNATIVES

There are numerous factors that can influence the impact of a mixed-use redevelopment project on air quality. These include the size of the new development and its parking lot, the ability of the adjacent roadways to handle the expected increase in traffic, the location and ease of access at the project's entrances and exits, and local meteorological conditions.

As pointed out in earlier sections of this Environmental Impact Report, the basic project alternatives are limited to the BOSCOM Alternative, the Preliminary Development Concept Alternative, and the No-Build case. The limitations placed on the development design by the geographical features of the site and traffic access considerations preclude consideration of alternative designs that would significantly alter air quality impacts.

FINDINGS AND CONCLUSIONS

The air quality analysis predicted maximum 1-hour and 8-hour CO concentrations at sensitive receptors, using the EPA Indirect Source Guideline¹ technique. Worksheets from the roadway analysis are included in Appendix 4. The cumulative results of the air quality analysis including impacts from intersections and background are presented in Figure IV-14. These results do not characterize typical air pollution levels in the project area. Rather, they represent the highest concentrations that could exist during the joint occurrence of worst case meteorology and peak traffic. Every aspect of the analysis involved very conservative assumptions.

Modeling of the existing condition (Case 1) indicates that maximum 8-hour CO levels exceed the 8-hour standard of 9 ppm at all three intersections, and maximum 1-hour CO levels are above the 1-hour standard

1 EPA, Guidelines for Air Quality Maintenance Planning and Analysis Volume 9, (Revised): Evaluating Indirect Sources, Second Printing, EPA-450/4-78-001, Research Triangle Park, NC, September 1978.

Predicted Maximum CO Concentrations Plus Background (PPM)

Receptor Number	Case 1 Existing 1982		Case 2 No-Build 1987		Case 3 BOSCOM 1987		Case 4 Prel. Develop. Concept 1987	
	1-Hour	8-Hour	1-Hour	8-Hour	1-Hour	8-Hour	1-Hour	8-Hour
1 Northern Ave./ Atlantic Ave.	22.7	<u>12.6</u>	31.6	<u>15.4</u>	32.1	<u>15.4</u>	33.0	<u>15.6</u>
2 Congress St./ Atlantic Ave.	<u>66.5</u>	<u>26.5</u>	<u>51.2</u>	<u>18.4</u>	<u>51.4</u>	<u>18.4</u>	<u>51.6</u>	<u>18.4</u>
3 D St./West Broadway	24.6	<u>10.1</u>	17.3	7.6	17.3	7.6	17.4	7.6

Concentrations underlined exceed the NAAQS of 35 ppm (1-hour) and 9 ppm (8-hour).

of 35 ppm at the Congress Street/Atlantic Avenue intersection. Significant reductions in CO concentrations will occur by 1987 except at the Northern Avenue/Atlantic Avenue intersection where CO levels will increase due to changes in traffic control. The reconstruction of the Northern Avenue/Atlantic Avenue intersection, a project independent from Commonwealth Pier, will involve the installation of a signal where only a stop sign now exists. Since signals process traffic less efficiently during peak periods, longer queues and delays will occur in 1987 than now exist.

In 1987, CO levels at the D Street/West Broadway intersection in South Boston are below both the 1-hour and 8-hour standards for all cases. At the Northern Avenue/Atlantic Avenue intersection in 1987, 1-hour CO concentrations are in compliance, but the 8-hour standard is still exceeded. Finally, at the Congress Street/Atlantic Avenue intersection in 1987, CO concentrations exceed both standards for all cases. The prediction of violations in 1987 is due primarily to queuing and congestion along Atlantic Avenue.

The differences between the No-Build and Build alternatives in 1987 are insignificant, or in many cases, actually zero. The BOSCOM Alternative (Case 3) adds from 0.0 to 0.5 ppm to maximum 1-hour CO levels for the No-Build condition (Case 2), and on an 8-hour basis, the increment is negligible for all receptors. The Preliminary Development Concept alternative (Case 4) adds from 0.1 to 1.4 ppm to maximum No-Build 1-hour CO levels, and on an 8-hour basis, the increase ranges from 0.0 to 0.2 ppm. Using EPA's significance criteria for ambient impact shown in Figure IV-9, it can be concluded that neither Build alternative for Commonwealth Pier will add significantly to predicted maximum CO concentrations in 1987. Thus, construction of either Build alternative will not significantly affect the attainment or maintenance of NAAQS for CO.

MITIGATION MEASURES

While the project does not add significantly to CO levels, some measures can mitigate the high CO levels predicted for 1987 due to baseline traffic along Atlantic Avenue. In the case of motor vehicle air pollution, these are generally limited to traffic engineering design techniques. Traffic engineering design of the roadways in the project area can reduce the conflicts, low speeds, and idling that cause higher

emission levels, thereby minimizing air pollutant emissions. Upgraded geometrics can be used to promote efficient street operation. It is also important to encourage usage of existing MBTA service and the proposed shuttle bus service. A high level of public transportation, combined with an effective parking management plan, will result in lower automobile dependency for the project.

A short-term, low-cost mitigation measure is to eliminate all on-street parking along Atlantic Avenue, from the corner of Summer Street north to Northern Avenue. The taxi stand in front of the temporary Continental Trailways station will automatically be eliminated before 1987 when this facility moves into South Station. Eliminating on-street parking will greatly improve traffic flow along Atlantic Avenue, allow a four-lane approach at the intersection with Congress Street, and reduce CO concentrations. Adjusting signal timing is not an option since these intersections are already optimally timed.

Long-term mitigation measures include implementation of an Inspection and Maintenance (I&M) program for light-duty vehicles, increased use of the MBTA and ride-sharing by commuters. An I&M program is scheduled for implementation in April, 1983. Based on emission estimates detailed in Appendix 3, I&M will reduce CO emissions in 1987 by 26%. A similar reduction in predicted CO concentrations would be expected. Increased use of the MBTA and ridesharing by commuters will help reduce peak hour traffic congestion, queuing delays, and CO concentrations.

Construction related air quality impact mitigation measures include the use of dust control measures, wetting of demolition areas, and use of covered trucks.

Implementation of the I&M program and removal of on-street parking from Atlantic Avenue will significantly reduce predicted CO concentrations in 1987. Figure IV-15 shows that these mitigation measures will eliminate all violations of the 1-hour CO standard and move predicted 8-hour concentrations closer to compliance. Additional worksheets for these calculations are found at the end of Appendix 4.

Predicted Maximum CO Concentrations in 1987

Adjusted for the Mitigation Measures of an I&M Program and Removal of On-Street Parking from Atlantic Ave. plus Background (PPM)

Receptor Number	Case 2		Case 3		Case 4	
	No-Build 1987		BOSCOM 1987		Prel. Develop. Concept 1987	
	1-Hour	8-Hour	1-Hour	8-Hour	1-Hour	8-Hour
1 Northern Ave./ Atlantic Ave.	24.7	<u>12.2</u>	25.1	<u>12.2</u>	25.7	<u>12.2</u>
2 Congress St./ Atlantic Ave.	30.8	<u>13.8</u>	30.8	<u>13.8</u>	30.8	<u>13.8</u>
3 D St./West Broadway	14.1	6.4	14.1	6.4	14.2	6.4

Concentrations underlined exceed the NAAQS of 35 ppm (1-hour) and 9 ppm (8-hour).

AIR QUALITY SUMMARY

The goal of the air quality analysis was to determine whether the Commonwealth Pier Redevelopment Project will affect the attainment or maintenance of Massachusetts and National Ambient Air Quality Standards for carbon monoxide (CO). The study identified three critical areas of human activity (sensitive receptors). Using air quality modeling techniques and traffic estimates expected for the project, CO levels were estimated for all project alternatives for existing and future conditions. The results of the study indicate the proposed redevelopment project will not significantly affect the attainment or maintenance of state and Federal standards for CO.

Historic Significance

INTRODUCTION

The area of South Boston now commonly known as the Fort Point Channel area was originally marsh land and tidal flats. Until the early 19th century, the majority of the area north of what is now First Street was part of the harbor. Between 1836 and 1890, extensive filling of this area was carried out by the Boston Wharf Company and other concerns, and additional warehousing and industrial buildings (the Boston Wharf Company buildings) were built. In the early 20th century, the Commonwealth, responding to the growing need for additional land for shipping and harbor frontage, continued waterfront development north of Northern Avenue adjacent to The Boston Wharf property.

Commonwealth Pier was started in 1912 and completed in 1914 under the sponsorship of the Directors of The Port of Boston--a state agency. It was intended for use by major freight and passenger ships, and at that time, was promoted as being the "greatest passenger and freight pier in the world." The structure, which consisted of a four-floor Headhouse and three two-level sheds, was accessible to both vehicular and rail traffic, allowing expeditious transfer of both passengers and cargo.

The Headhouse was built of steel frame construction clad in stone. It was used for administrative offices and loading access, and has a floor area of 53,000 square feet. The Headhouse faces Northern Avenue, and forms a two-story entrance to the Pier. The lower (ground level) entry opens through a series of large bays onto Northern Avenue. The second level entry is accessed by the viaduct (or by the stairs to the viaduct from Northern Avenue) and is currently the entry for the gate shows and exhibitions at the Pier.

The three parallel shed structures were built to cover the rest of the Pier, with the exception of the 20 foot apron around the Pier's edge. The sheds were originally separated, but were later roofed in to create continuous interior space. Total floor area for the two floors of the sheds is 797,000 square feet.

Commonwealth Pier brought about the rejuvenation of Boston's maritime interests and signalled the re-emergence of Boston as an important East Coast port in the twentieth century. It became the center of the American wool trade, and served as a port of entry to immigrants from Europe via passenger liners. It was a naval supply station during World Wars I and II.

The Pier's use by passenger and cargo ships continues today, but at a much lower level than in the early 1900's, due mainly to the dominance of air and truck travel in the U.S. and to the shift in water transport technology to containerization. Since 1959, it has been owned and operated by the Massachusetts Port Authority. Today the Pier is Boston's only passenger ship terminal and also is a berth for tallow ships. Parts of the facility are used for short term warehousing. The Pier also contains large vacant spaces which are used for gate shows and exhibitions.

In addition to its role in Boston's maritime history, Commonwealth Pier is architecturally significant. The Pier Headhouse is one of the two major examples of public Beaux Arts architecture in Boston, with a two-level series of arches, Tuscan columns, and a second floor arcade in a classical style. See Figure IV-16.

Originally, the shed facades exhibited a classical revival design style similar to--but not as ornate as--the Headhouse, but the shed facades have since been replaced with a shell of concrete panels and cannot be restored. Commonwealth Pier is listed on the National Register of Historic Places.

DESCRIPTION OF IMPACTS

Alternative 1: No-Build

This alternative would not lead directly to the structural or aesthetic preservation of the building, nor would it prevent continued deterioration of the structure. Massport is not in a position to make the significant investment necessary to preserve Commonwealth Pier, given its present low level of use. Without repairs to the shed roof, this historic structure will eventually have to be closed to all use.

Alternative 2: Preliminary Development Concept

The design for this plan, based on the development prospectus for Commonwealth Pier (Massport, May 1981), includes the structural upgrading of the Pier, refurbishing of the Headhouse and outer sheds, demolition of portions of the central shed, and construction of an office tower. The Heritage Conservation and Recreation Service (of the U.S. Department of the Interior) reviewed the Preliminary Development Concept. In correspondence with Massport, dated May 22, 1981, the Service concluded that the

Headhouse Facade



The Headhouse facade (as shown here from the viaduct level) demonstrates the design and detailing of early 20th century civic/industrial structures. Commonwealth Pier and South Station are the two remaining Beaux Arts structures in Boston.



design proposal would substantially alter the historic character of the shed portion of the Pier building. According to this review of the proposal, the height and bulk of the new construction--particularly the office tower at the north end of the Pier--would be incompatible with the size, scale and character of the historic structure. Further, the shed elevations would be changed too drastically, thus destroying "the distinctive original qualities" of the building. Due to these and other aspects of the proposal, the Heritage Conservation and Recreation Service concluded that the Preliminary Development Concept would not meet the "Standards for Rehabilitation" of the Department of the Interior.

Alternative 3: BOSCOM Development Project

BOSCOM's design focuses on Commonwealth Pier's original architecture. The historic Beaux Art Headhouse will be preserved and restored, and new construction will be an extension of the Pier's original design concepts. The viaduct level of the Headhouse will be emphasized as the main entrance to the revitalized structure, with emphasis on pedestrian, rather than vehicular access. The main concourse will be a highly illuminated grand entrance hall for the complex.

Much of the original shed facades have been lost to renovations over the years. BOSCOM architects have studied several hundred photographs of the Pier as originally constructed, and proposed a new design of the shed facade which will reflect the original architecture. The most significant elements of the original facades will be incorporated into the BOSCOM design, within the limits of current construction technology and cost.

The location and massing of the proposed 500-room hotel--a mid-rise structure located between the east and west sheds at the north end of the pier--is conceived to emphasize and not compete with the historic shed facades. The hotel structure will be stepped back from the north facade, using materials and colors consistent with the shed facades (as restored/rebuilt), while minimizing the apparent building mass. The roof of the central shed will be rebuilt, without significantly affecting the overall lines of the building.

FMR Properties, Inc., the developer of BOSCOM, is seeking historic tax certification for the rehabilitation of the entire Pier building. This will require a rigorous local and national review process involving the U.S. Office of Cultural Programs, the State Historical Commission, and the Boston Landmark Commission. This review will be based on the Secretary of the Interior's Standards for Historic Rehabilitation. As part of these standards, rehabilitation is defined as "...the art or process of returning a property to a state of utility through repair or alteration which makes possible an efficient contemporary use while preserving...[historic]...features of the property..."¹ The Standards for Rehabilitation were adopted to assure that the essential form and integrity of the structure will be unimpaired and that contemporary design for alterations and additions will not "destroy significant historic, architectural or cultural material,...[and will be]...compatible with the size, scale, color, material and character of the property, neighborhood or environment."²

BOSCOM designers are currently preparing the necessary design documents for initial review by the Office of Cultural Programs in the National Park Service, U.S. Department of the Interior. As project design continues, FMR and its architects will consult with the appropriate local, state and Federal officials to seek comments and suggestions on the historic rehabilitation aspects of the BOSCOM project. This ongoing review, ultimately resulting in certification of the design, will insure the preservation of Commonwealth Pier's architectural and historic significance.

SUMMARY OF IMPACTS AND MITIGATION MEASURES

Of the three alternatives, the No-Build Alternative is the only scenario which would leave the structure completely unchanged, but would not prevent the continued deterioration of the Pier structure, or the eventual loss of the Pier's historic and architectural significance through decay. The Preliminary Development Concept and BOSCOM Alternatives both call for the partial demolition of the central shed and the addition of a new building (an office building in the

1 Morton, W. Brown and Gary L. Hume, The Secretary of the Interior's Standards for Historic Preservation Projects. U.S. Department of the Interior, Washington, D.C., 1979, page 3.

2 Ibid, p. 5

Preliminary Development Concept, a hotel in the BOSCOM project) at the northern end of the Pier. In both alternatives, the Headhouse would be preserved.

The Preliminary Development Concept design does not conform to the Secretary of the Interior's Standards for Rehabilitation. The 12-18 story office tower, and modifications in the shed exterior, are not in keeping with the historic industrial architecture of the Pier.

In contrast, the BOSCOM project calls for new construction more consistent with the historic industrial image of the present structure, and for less modification of the shed exteriors. Illustrations of these design concepts are provided in the Description of Alternatives section of this EIR. FMR Properties, Inc. intends the design of the project to be consistent with the Secretary of the Interior's Standards for Rehabilitation and to be eligible for certification. This would allow the developer the tax advantages awarded for historic rehabilitation of architecturally significant buildings, as provided by the Historic Preservation Tax Act.

Maritime Activities

INTRODUCTION

Commonwealth Pier represented the state-of-the-art in marine terminal technology when it was completed in 1914. Its design provided for the simultaneous accommodation of passenger and cargo ships, railroad cars and trucks for fast, efficient cargo transfer. Since then, however, advances such as containerized cargo handling, air and overland freight transportation, as well as passenger preference for air travel, have eroded the Pier's advantages. Current technology focuses on containerized cargo, now the dominant form of marine cargo, and Boston has lost ground to southern and western U.S. ports as a center for cruise ships.

Based on these changes in technology and demand, Massport has concluded that the interior portion of Commonwealth Pier is not suitable for extensive maritime freight-activities. However, other maritime uses such as cruise ship (see Figure IV-18) and excursion boat dockings, are viable activities for the Pier apron and offer opportunities for growth in the future.

Cruise Ships. In the last several years, Boston travel agents have successfully attracted new cruise ship business to Boston. While these cruises are of shorter duration than those in the past, they have occurred more frequently and have contributed to greater use of the Pier. See Figures IV-19 and IV-20 for data on cruise ship activities.

Excursion Boats. In 1979, Massport leased berthing and office space to the Bay State Spray and Provincetown Steamship Company in an effort to increase boat activity in the harbor. Since then, the Provincetown II, which makes regularly scheduled trips to Provincetown from Boston, has made Commonwealth Pier its home berth. Increasingly, other vessels used for charter excursions have utilized the Pier. Commonwealth Pier offers a superior location in the harbor for such boats due to the ready availability of parking in the area.

Massport has required that any redevelopment of the Pier retain these maritime uses and allow for their expansion in the future.

Port of Boston



Shaded Areas: Massport Properties

Cruise Ship Docking



Commonwealth Pier is the only place in Boston Harbor for large cruise ships to dock. These facilities are presently outmoded and deteriorating. The BOSCOM project will lead to modernization and expansion of cruise ship facilities, creating the potential for increased use.

FIGURE IV-19

1981 Cruise Ship Passenger Volumes*

Date	Number of Passengers Disembarking	Number of Passengers Embarking
4/11/81	4	930
4/12/81	930	1,052
4/18/81	1,052	1,175
4/20/81	1,175	1,049
4/26/81	1,049	0
4/29/81	0	1,186
5/05/81	1,186	1,160
5/11/81	1,158	0
6/10/81	436	508
6/24/81	508	0
7/08/81	0	531
7/22/81	527	0
8/12/81	531	0
8/19/81	0	1,101
8/25/81	1,102	1,120
8/26/81	526	0
9/01/81	1,113	1,103
9/04/81	1,100	0
9/09/81	0	539
9/23/81	0	386
10/26/81	0	549
11/06/81	549	581
11/07/81	581	642
11/09/81	612	303
11/10/81	303	472
11/12/81	472	0
Total	14,914	14,387

Number of dockings: 26

*Source: Massport, 1982

FIGURE IV-20

Cruise Ship Activity* - 1975-1981

	<u>Cruise Vessels</u>	<u>Passengers</u>
1975	19	11,611
1976	9	10,763
1977	8	10,575
1978	8	7,449
1979	14	15,854
1980	25	19,732
1981	28	29,104

*Source: Massport, 1982

FIGURE IV-21

Cargo Activity at Commonwealth Pier (in tons)*

1969	50,085
1970	73,353
1971	57,511
1972	71,961
1973	51,851**
1974	62,301
1975	42,688
1976	35,150
1977	43,706
1978	23,558
1979	33,282
1980	32,446
1981	28,020

*Source: Massport

**Since 1972, the export of bulk tallow has been the only significant cargo activity at Commonwealth Pier.

A detailed analysis of port facilities has recently been completed by Massport staff. Entitled "The Port of Boston: A Maritime Strategy", the report is available upon request.

This report summarized plans for expanded maritime use related to all Massport facilities. Massport is responding to the changes in freight handling technology by investing substantial resources in rehabilitating existing terminals for containerized cargo, and in constructing new terminals elsewhere on its waterfront properties. Moran Container Terminal in Charlestown has been rehabilitated, but lacks enough acreage to allow for further expansion. A new container terminal has been constructed at Castle Island Conley Terminal. A 47 acre terminal--the Massport Marine Terminal--is now under construction at the Boston Marine Industrial Park. This facility will serve as a bulk and breakbulk terminal during the next decade, but ultimately will be developed as a container facility--thus doubling the Port's present container capacity. These improvements to Boston's marine cargo capacity represent an investment in excess of \$51 million and will insure Boston's ability to handle anticipated tonnage levels well into the next century.

Massport has determined that conversion of the Commonwealth Pier to a major marine cargo terminal is not feasible due to the deterioration of the Pier's substructure, and the incompatibility of the Pier structure with present cargo handling technology. At present, Commonwealth Pier is in need of repairs, but its low-intensity uses do not generate enough revenues to justify the investments in the Pier's extensive repairs. Even if the Pier did not require major investment, its facilities are obsolete for freight-handling, given the current technology in that industry. Massport has determined that it is not economically viable to market Commonwealth Pier for maritime freight uses at this time, nor in the foreseeable future.

One maritime business in the immediate vicinity of Commonwealth Pier which is dependent on maritime transport is Corenco--a tallow storage operation located on Massport property on Commonwealth Flats. Corenco's lease expires later in 1982, and Massport has has offered Corenco another site in order to retain this use in the port of Boston. The accompanying table (Figure IV-21) summarizes cargo activity at Commonwealth Pier during the period 1969-1980.

DESCRIPTION OF IMPACTS

Alternative 1: No-Build

At present, approximately 75% of the Pier is vacant, and the Pier apron is in poor condition and require maintenance and repair. Without repairs to the Pier, estimated to cost \$10.2 million, the structure will continue to deteriorate, with adverse effect on maritime activity at the Pier. There might be some opportunity for additional maritime use of the apron, for commuter boats or water taxis, but any substantial increase in maritime uses, especially freight transport, are very unlikely. While repairs to the Pier's substructure and shed roof would be necessary if the Pier's present uses were to continue, the lack of economic return from these uses would make them a low priority for Massport's available capital. In conclusion, this alternative would lead to the eventual decay of the Pier, and an erosion of even its present activity level.

Alternative 2: Preliminary Development Concept

In this Plan, in addition to establishing high density mixed uses on the Pier, the structure and foundations would be upgraded. A new cruise ship terminal and excursion boat docks would be built. Use of the Pier apron for other maritime activities--such as berths for water taxis and pleasure craft--would be at the discretion of the developer. Corenco would relocate to another site in the waterfront area when its lease expires. The project would result in a net improvement in the maritime facilities and an increase in the maritime use of the Pier.

Alternative 3: BOSCOM Development Project

BOSCOM development plans call for a variety of improved facilities within the structure serving expanded maritime uses at Commonwealth Pier. These include:

- o a new cruise terminal on two levels with waiting areas and easy access to various sized ships;
- o customs facilities;
- o ground floor drop-off areas within the building; and
- o parking facilities.

Present plans call for the cruise terminal to be located on the east side of the building, utilizing that deep water berth for larger ships and allowing for expansion of smaller vessel activity on the west side.

In addition to the cruise terminal, BOSCOM has incorporated into their plans additional office space for water-related uses including:

- o excursion boats;
- o commuter boats;
- o boating clubs; and
- o water taxis; as well as
- o cruise ship operators and service providers.

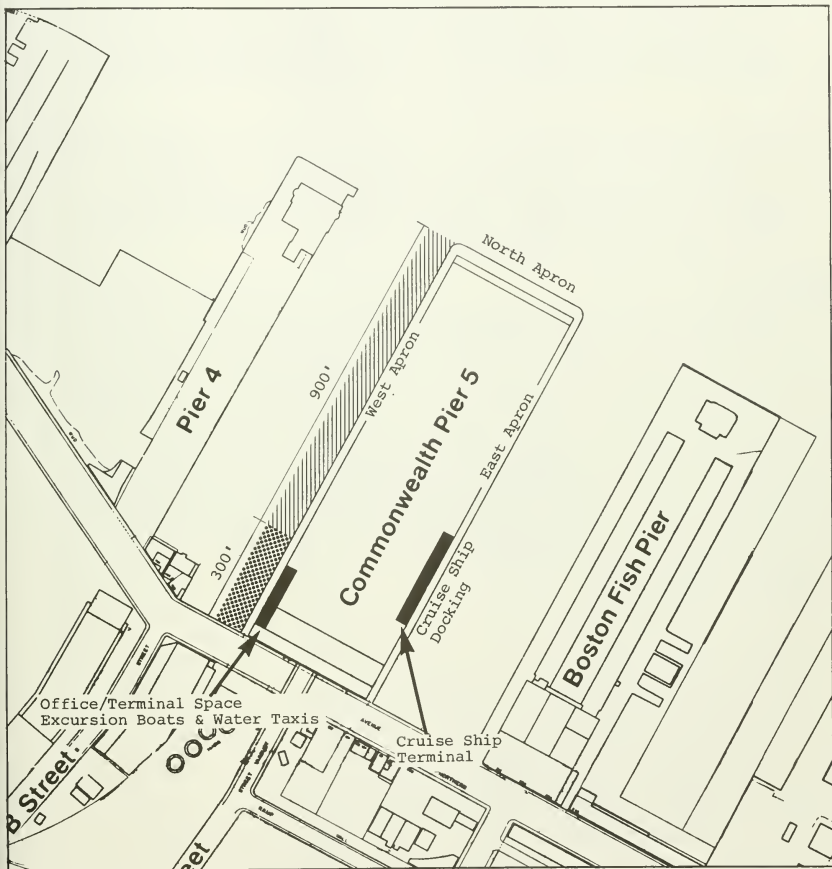
The lease between FMR Properties and Massport for the development of BOSCOM will provide that Massport retain control of the apron which runs along the entire perimeter of the Pier. Consequently, it will be Massport's continuing responsibility to effectively market and maintain the Pier for maritime use.

Massport is committed to the expansion of maritime use, and to the effective use of the existing deep water berths in the port of Boston. (See Figure IV-22.) At Commonwealth Pier, this commitment includes:

- o Repair of the apron including replacement of deteriorating fender piles and substructural repairs.
- o Relocation of cruise ship docking to the east apron with modern terminal facilities capable of handling expansion to more than ten times current levels of use.
- o Expansion of the existing 300' berth for excursion boats by adding up to 900' of new berthing area on the west apron for a total of 1200' of available berthing area.
- o Active marketing of these expanded berths and modern terminal facilities to attract additional excursion boats, commuter boats, water taxis, and cruise ships.
- o Provisions for docking private vessels of BOSCOM business users in the west berth, in agreement with existing or new operators of that berth.
- o Continuing efforts to find a relocation site for Corenco in South Boston where other industrial maritime activities are located.

Massport Plan for Expanded Maritime Use

(Alternative 3: BOSCOM)



Existing Excursion Boat Berths

Expanded Excursion Boat and Water Taxi Berths

The BOSCOM alternative, therefore, not only retains present maritime uses of the Pier, but also represents considerable capital improvements resulting in an expanded number of berths, modern support facilities, and a commitment to aggressively market the berths to increase this maritime activity.

Only minor impacts to maritime uses are expected during construction of the BOSCOM project. However, the redevelopment may call for temporary relocation of cruise ship docking to another part of the Pier. Massport and the developer will coordinate plans to avoid scheduling conflicts with cruise and excursion ship activities.

SUMMARY OF IMPACTS

The three alternatives described above all include the continuation of the existing cruise terminal and excursion boat service at Commonwealth Pier in the short term. The major differences lie between the No-Build--which offers no improvements in the maritime facilities--and the build alternatives, which propose major improvements to the terminal facilities within the Pier structure. Of the other two build alternatives, the BOSCOM Alternative retains Massport's control over the pier apron and commits Massport to an improvement and marketing program for expanded maritime use. The Preliminary Development Concept assumes that the developer would control both the structure and apron areas.

Foreign Trade Zone

INTRODUCTION

Commonwealth Pier is part of a designated Foreign Trade Zone (FTZ) area which includes the Pier and Commonwealth Flats. A pilot project initiated by Massport, the FTZ is an area designated by the U.S. Department of Commerce to be outside of the U.S. Customs jurisdiction.

Goods brought into an FTZ from foreign or domestic sources are not subject to the normal Customs requirements and fees. Products can be assembled, displayed, inspected, packaged, sold, and otherwise manipulated. Re-exported goods avoid customs fees. However, goods brought into the U.S. from an FTZ become subject to duties, quotas and other Customs restrictions.

Across the country, the experience has been that Foreign Trade Zones are only marginally successful financially. Notable exceptions are the zones that are manufacturing plants, such as the Pennsylvania Volkswagon plant or the Kawasaki motorcycle plant in the midwest, and a few special purpose subzones in other parts of the country that process large volumes of high value goods. Since location of a major industrial plant is an extremely unlikely prospect for the area, Massport has concentrated its FTZ marketing activity on encouraging subzone uses. Sterlingwale corduroy manufacturers in Fall River is now a Massport FTZ subzone, and Massport is working with General Dynamics to secure a subzone designation for its Quincy Shipyard. It is Massport's judgement that this use of the Foreign Trade Zone concept offers the greatest potential benefit to New England users.

At Commonwealth Pier, the primary activity of the FTZ has been a 40,000 square feet warehouse facility. The principal benefits to business users are the cash flow advantage of holding goods in a duty-free environment. Minimization of the impact of Customs fees and other requirements can be important to wholesale buyers, sellers, and import/export brokers who deal with large quantities of foreign-made products. However, volumes at Commonwealth Pier have remained low due to the high labor costs of handling goods at a port facility.

The FTZ, as currently operated at Commonwealth Pier, is not a water-dependent activity, as all of the goods are transported to it via air freight, trucks or rail transport. The FTZ designation can be extended to other Massport properties, or the FTZ warehouse

activity on the Pier could be moved to another already designated FTZ area, such as Commonwealth Flats. Negotiations with the current FTZ operators are in process, as well as consideration of expansion of the FTZ to the South Boston Marine Terminal, EDIC facilities, and Logan Airport.

DESCRIPTION OF IMPACTS

Alternative 1: No-Build

Assuming that no new development occurs on Commonwealth Pier, the existing 40,000 square foot FTZ warehouse would probably continue to operate until the deterioration of the Pier forces this activity to relocate. Over the long term, viability of the current FTZ operation depends on the interest of local or regional businesses in using it. If the FTZ facility were to continue and expand, it is likely to be relocated to the Boston Marine Industrial Park or to the former Army Base in South Boston, where there is ample space to accommodate it.

Alternative 2: Preliminary Development Concept

The FTZ is listed as one of the site's advantages in the Prospectus for the redevelopment of Commonwealth Pier. The decision to retain the FTZ designation, perhaps in connection with a trade mart or exhibition space, would be made by a developer. If the FTZ designation is not useful to a developer, it could be relocated to another appropriate site on Massport property.

Alternative 3: BOSCOM Development Project

FMR Properties, Inc. has expressed to Massport its interest in retaining the option for operating FTZ facilities in conjunction with BOSCOM's proposed trade mart. Some of the trade mart participants are expected to be buyers and sellers of internationally imported/exported high technology products. Moreover, it is expected that some imported goods might be assembled, repaired, displayed, or re-exported during the mart's normal operations. The operation of an FTZ at BOSCOM does not preclude continuation of the FTZ designation on Commonwealth Flats, or at any other appropriate location.

SUMMARY OF IMPACTS AND
MITIGATION MEASURES

None of the alternatives would preclude the future use of Massport's Foreign Trade Zone designation which includes Commonwealth Pier and the Flats or expansion of the FTZ to other locations. Under the No-Build Alternative, the existing pilot warehouse facility on the Pier would probably remain in that location for the short term. If continued as a long term operation, it would probably be relocated to some other appropriate location. The Preliminary Development Concept (Alternative #2) leaves the decision to utilize the FTZ designation on the Pier up to a developer, but anticipates that the warehouse activity would be relocated. If the new development did not include appropriate FTZ activities, designation of the Pier as an FTZ would lapse.

BOSCOM hopes to utilize the FTZ designation within the proposed trade mart. Specifics about the facility's size, location, and operator will be jointly determined by FMR Properties, Inc. and Massport. The existing FTZ warehouse activity would be relocated.

Massport is the state agency charged with enhancing regional economic growth by development and management of the properties in the waterfront area. The FTZ designation is one potential tool which can be used to increase the productivity of these facilities. However, the overall regional economic impact of the BOSCOM development at Commonwealth Pier, which may or may not involve utilization of the FTZ designation, will far exceed any expected returns from the current FTZ operations at the Pier. BOSCOM will provide employment opportunities, bring revenues from visitors, provide important support services for the high technology industry (a sector of considerable regional importance), and enhance educational growth in the region.

INTRODUCTION

The South Boston waterfront is a working harbor attractive to people who enjoy watching maritime activities. Views of the harbor and its shipping, cargo handling, and fishing industries are available primarily to those who patronize the restaurants along Northern Avenue and on the Piers, and to those who stroll along Northern Avenue, dodging trucks and cars as they pass. Though Commonwealth Pier has not been open to the public, its redevelopment provides an opportunity to expand public access from Northern Avenue out onto the Pier. Access along the apron which surrounds Commonwealth Pier and out to the northern apron at the end of the Pier would afford views of the harbor and its activities, the Boston skyline, and Logan Airport across the harbor. Other public uses which would provide continuing access to the Pier include excursion boating and, eventually, other water taxi and ferry service.

At present, only employees have access to the entire Commonwealth Pier building. Cruise and excursion boat passengers are limited to those areas necessary for boarding and disembarking. The general public is not permitted on the Pier aprons at any time.

Increased public access to Commonwealth Pier is a major goal of the developer and Massport. However, allowing the public on the entire Pier apron raises issues of compatibility with the Pier's maritime activities, especially major cruise ship dockings. Pedestrian safety devices would interfere with gangway placement and line movement for docking cruise ships. Therefore, a well-planned system for public access along the west and north pier aprons has been developed to avoid conflicts between this water-enhanced use and the other water-dependent uses of the Pier. (See Figure IV-23.)

Pedestrian access to the general area of the Pier is possible, but difficult. Narrow sidewalks, poor road and sidewalk conditions, and the truck traffic and noise along Northern Avenue currently make the walk from downtown a challenge. However, present conditions in the area do not encourage public access, nor does the public transportation to the area provided by infrequent bus service. With further development of the area, long-term improvements to the streets and sidewalks are anticipated. There are excellent views of the harbor, especially of the maritime activities at the Boston Fish Pier, from the part of Northern Avenue between Commonwealth Pier and the Fish Pier.

Much of the South Boston waterfront is under private ownership or Massport management. Commonwealth Pier and those areas on Northern Avenue to either side of the Pier therefore offer opportunities for improved public access.

DESCRIPTION OF IMPACTS

Alternative 1: No-Build

The result of this alternative would be the continuation of existing conditions. Public access would continue to be restricted to specific times and/or uses, due to public safety concerns and potential conflicts with maritime uses. Limited public access would be permitted on certain areas of the Pier, particularly during ferry operations and cruise ship boarding or disembarking. During special events--when visiting military ships invite visitors or when major celebrations hold displays in the Inner Harbor--the pier apron would be open to the general public at the discretion of Massport. No significant contribution would be made to the accessibility of the adjacent waterfront areas, nor would the area be likely to become more attractive to potential sightseers or restaurant patrons. One potential long-term impact of the No-Build Alternative is that the Pier may have to be closed due to its continuing physical deterioration. This would reduce even further the limited access that is presently available.

Alternative 2: Preliminary Development Concept

In this scheme, access to the Pier is guaranteed only for patrons of the cruise ships and the ferries. It is also likely that the office lobby and restaurant--which would have views of the harbor--would be accessible to the public. Whether the public would be allowed on the apron to view special events or to observe the harbor was not addressed since designs did not advance beyond the concept stage. The level of design of this preliminary marketing concept was very general and had no details specifically relating to pedestrian safety precautions, amenities or access to a portion of the apron.

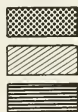
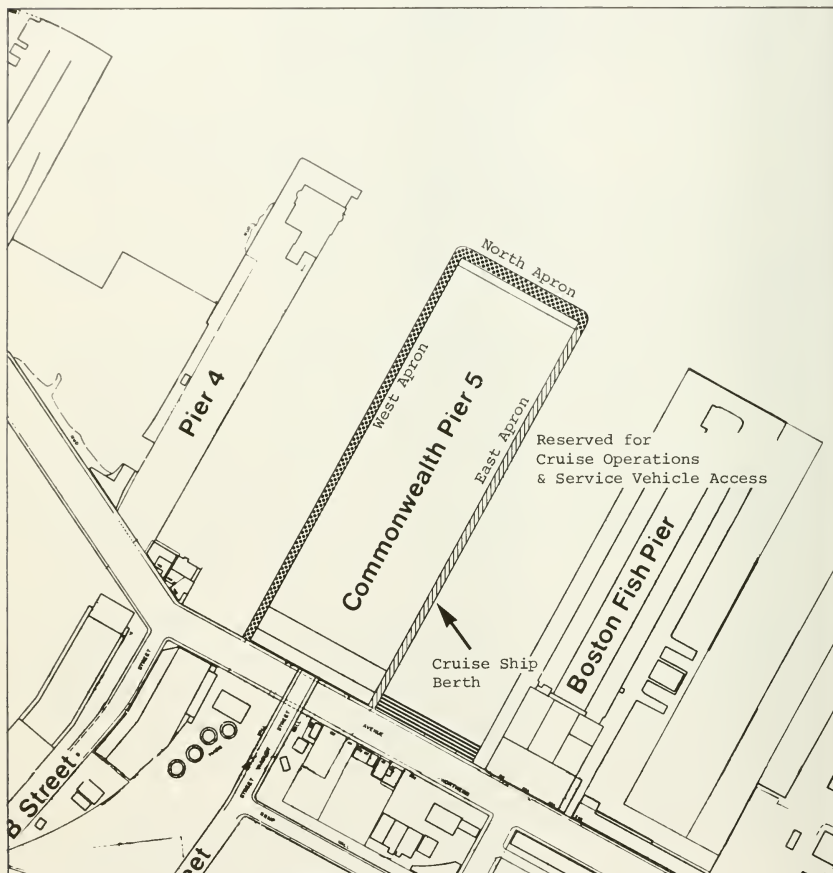
Alternative 3: BOSCOM Development Project

This alternative provides for Massport to retain operational control of the pier apron which extends around the full perimeter of the Pier for safety,

access, egress, support functions and maritime activity and public access. As planning has proceeded for the construction of BOSCOM, additional attention has been paid to Massport's plans for the apron and their relationship to BOSCOM operations. At this stage in planning and design, Massport is able to firmly commit to the following provisions for public access to Commonwealth Pier. For purposes of clarity in discussion, the apron which extends around the pier will be referred to in three sections: the 20' wide west apron which faces downtown and Pier 4, the 20' wide east apron which faces the Fish Pier and the 35' wide north apron which faces out into the Lower Harbor. Figure IV-23 shown earlier indicates these areas and illustrates Massport's commitment to provide public access as follows.

1. The west apron will provide the primary public access way along the Pier edge. The gate leading to it is the first visible to visitors as they approach the Pier from the west. The full apron can be seen as one approaches the Pier from Pier 4. This visibility will encourage use of the public access way. Consistent with the expanded maritime use discussed in an earlier chapter, excursion boats, ferries, water taxis, and other smaller boats will make frequent use of the Pier. These vessels will not require the extensive tie-up facilities to several levels of the Pier structure, service vehicles, and loading facilities that are required for cruise ships.
2. The north apron will be the primary destination for the public at Commonwealth Pier. Views of the harbor, of vessels arriving and departing from the Pier, Fish Pier and downtown, are spectacular at this point. The apron expands from the 20' on the sides to a more generous 35' at the end. Because of their proximity to that end of the Pier, Massport anticipates that the BOSCOM hotel and restaurant facilities will promote public use of the north apron.
3. Public access to the east apron will be more restricted than that to the west and north aprons. This side of the Pier will be reserved primarily for cruise ship docking and service access to BOSCOM. A cruise ship requires clearance for lines which extend across the apron to tie the ship up to the structure at several levels, gangways for

Massport Plan for Public Access (Alternative 3: BOSCOM)



Primary Pedestrian Access

Restricted Access

Public Viewing Area

Public Access

passengers and service access vehicles which load from the apron, blocking access into the building, customs facilities for the transfer of passengers and baggage, space for materials used by long shoremen for service to the ship, and what often appears to be a maze of other lines and gear. (See Figure IV-24.) In addition, preliminary designs suggest vehicle service access to BOSCOM may be required from the east apron. For these reasons, it was determined that public access will not be provided along this apron. While these requirements preclude public access to the east apron, the activities associated with cruise ship docking can be viewed from the north apron or from Northern Avenue.

4. Physical facilities for public use of any portion of the apron will be designed in close coordination with fire safety officials who will review egress plans for BOSCOM and provisions for emergency vehicle use of the apron. Preliminary discussions suggest that pedestrian access will not conflict with fire safety criteria. However, amenities such as benches and tables on the west apron would reduce the area of the apron to a point below minimum fire safety criteria.

In addition to the provision for public access outlined above, Massport is studying the feasibility of building a viewing area platform, the Northern Avenue Portal, between Commonwealth Pier and the Boston Fish Pier. The platform would extend from the sidewalk, and would contain pedestrian amenities, such as benches and lighting, to encourage the public to enjoy the harbor edge from that vantage point. Improvements in the streetscape of Northern Avenue are also planned to encourage pedestrian access to the harbor area. These projects would improve the environment in the vicinity of the Pier, and would benefit nearby restaurants, retail, exhibition and hotel establishments.

Provision of public access to Commonwealth Pier as part of Alternative 3, therefore, represents a substantial increase over present conditions and a more definitive response than Alternative 2. Massport is committed to public access ways along the west and north aprons. Access will be encouraged through signage, physical amenities, and

Cruise Ship Operations on the Pier Apron



Essential service to cruise ships docked at Commonwealth Pier requires restricted use of the apron. Tie-ups to upper levels of the Pier shed, water hoses, service vehicles, and loading and unloading of luggage, supplies and passengers, create avoidable hazards to people using the apron.



the promise of heretofore unavailable views. Specific design features of public access will be incorporated into the design of the project.

5. For safety reasons during construction, the present restrictions on public access to the Pier will remain in force.

SUMMARY OF IMPACTS AND
MITIGATION MEASURES

Of the three alternatives considered, all would permit passenger access to the cruise terminal and excursion boat dock. Only the No-Build Alternative makes no additional contribution to the accessibility of the Pier or the adjacent waterfront areas. The Pier would retain its limited accessibility and no pedestrian amenities would be built along Northern Avenue. The build alternatives, by increasing the intensity of the Pier's use, would increase access to the Pier. The Preliminary Development Concept hypothesized access to the public areas of the development--the office lobby and restaurants--which have good views of the harbor and downtown Boston.

The BOSCOM development will provide increased access, not only at the cruise and excursion terminals, but also to other areas not currently accessible. Public access to the apron will be provided for by Massport, and will include continuous access along the side and to the end of the Pier. Massport will continue to examine the possibility of other waterfront amenities, such as the Northern Avenue Portal. Thus, the BOSCOM Alternative will contribute significantly to the accessibility of the surrounding waterfront area as well as that of Commonwealth Pier.

WATER SUPPLY SYSTEM

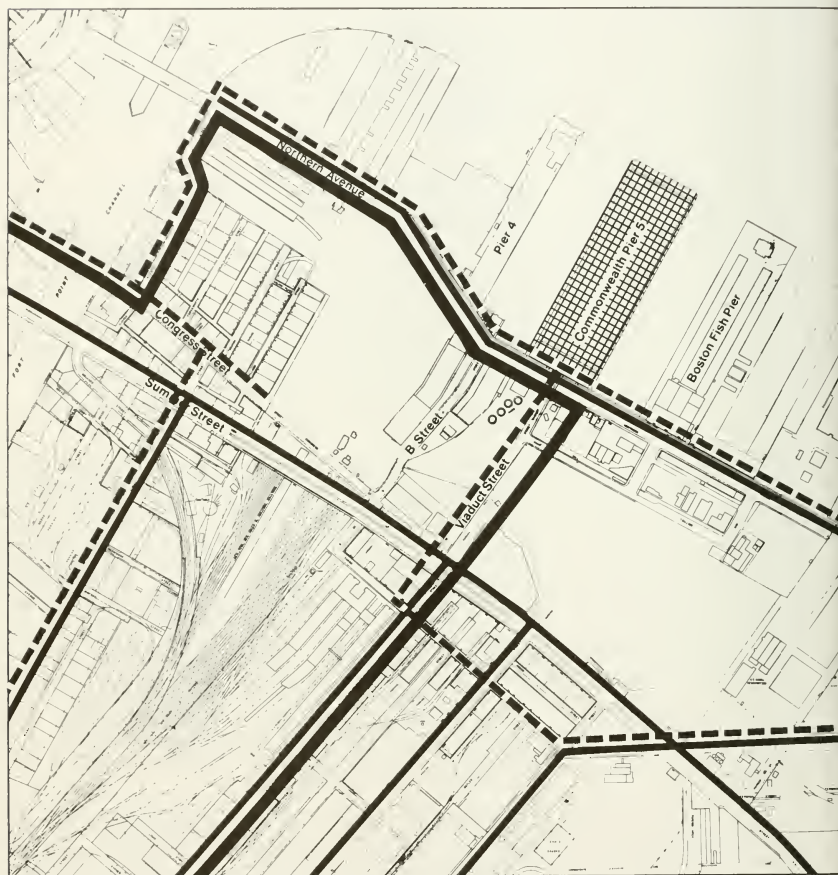
Water for domestic and fire use is supplied to the study area by the Boston Water and Sewer Commission. The principal point of entry to the study area is across the Fort Point Channel at Congress Street. There are two major water systems--low pressure service for domestic water supply and high pressure service for fire protection. (See Figure IV-25.)

The low pressure service distribution link which supplies domestic water to Commonwealth Pier is a 16-inch main in Northern Avenue. This branch also provides domestic and fire service to the commercial and light industrial properties all along Northern Avenue from the Channel to the Boston Marine Industrial Park (BMIP). It is supplied by a 30-inch low pressure service transmission main also in Northern Avenue. A utility study conducted for Massport by the E. Lionel Pavlo Engineering Co., Inc. (September 1981) reports that the low pressure service main near Commonwealth Pier (static pressure = 58 psi) can deliver at least 5,900 gallons per minute (gpm) at a residual pressure of 20 pounds per square inch (psi).

The high pressure service water supply system (static pressure = 80 psi) has a 16-inch main running parallel to the low pressure service main in Northern Avenue. It supplies fire hydrants along the viaduct, fire protection to properties along Northern Avenue and also supplies domestic water to the Fish Pier. When tested in the vicinity of Commonwealth Pier, it was determined that this system is capable of delivering 1,350 gpm at a residual pressure of 20 psi. This amount is significantly less than the low pressure service system can supply. Discussions with the Boston Water and Sewer Commission (in February, 1982) revealed that the Commission has plans to improve the high pressure service branch by 1984. Such an improvement would include cleaning deposits out of the pipes, and possibly relining or replacing sections, thus boosting the system's performance.

High pressure service flows which are required for fire protection need to be higher than low pressure service flows for domestic use, although high system flows are needed for shorter periods of time. The high pressure system flows needed for the proposed major developments and industrial expansion in the South Boston area will depend on the expected building height, floor area, materials, occupancy, and whether sprinklers will be used. The developers should consult with the City Fire

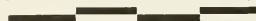
Existing Water System



Source: Boston Water and Sewer Commission; and E. Lionel Pavlo Engineering Co., Inc. Final Utility Master Plan and Report: Northern Avenue/Commonwealth Plats South Boston, September 1981.

- Low service (30" transmission)
- - - Low service (domestic)
- ... High service

0 1/8 1/4 mile



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Marshal and the Boston Water and Sewer Commission to insure that the supplies are adequate for the needed fire flows.

WATER SYSTEMS:
DESCRIPTION OF IMPACTS

Consumption of water averages 50-75 gallons per day. Other demands on domestic water supplies include cleaning operations, restaurant processes and various other activities which place substantial demands on the water supply, in some cases far exceeding the demands for domestic water usage. The domestic water flows estimated for the three alternatives studied are based on the sewage flow estimates published in the Title 5 - Sanitary Sewage Regulations of the Department of Environmental Quality Engineering. It is assumed that total water consumption should exceed total sewage generation by approximately 15 percent. Since Title 5 estimates approximate maximum sewage flows, the estimates for domestic water flows could be considered maximum or "worst case" estimates.

Minimum required fire flows for buildings are set forth in the Massachusetts Building Code. Code information was used to estimate the required fire flows of the alternatives studied.

Alternative 1: No-Build

If no new development occurs on the Pier, the principal factor concerning the adequacy of the water system would be the implementation of other development in the area. If proposed development occurs on Piers 1-4, the Fish Pier, and at BMIP, development which may be completed by 1992, the additional demand for domestic water consumption could average approximately 380-400 gpm (approximately 1000 gpm at peak hour demand, assuming peak exceeds average by 250%). This additional demand could be easily accommodated by the existing low service water system which can, under existing conditions, deliver 5,900 gpm at residual pressure 20 psi.

Alternative 2: Preliminary Development Concept

The estimated demand for domestic water for this alternative is 138,000 gpd (96 gpm average) or approximately 250 gpm during the peak hour. When the estimated demand of the other area development (380 gpm) is added, the total estimated demand averages

approximately 500 gpm. The low service flow would be able to accommodate the additional demand.

The buildings proposed for Commonwealth Pier in this alternative will be equipped with sprinklers (as per the State Building Code, Section 12). The required high system flow from a City main would have to be at least 500 gpm (750 - 1,000 gpm for moderate hazard structures). The 1,350 gpm flow from the high service main would be sufficient to meet the demand (especially if the scheduled improvements to the system significantly boost the available flow). Moreover, since the low service system has substantial surplus capacity, it could be used as an emergency backup system for fire fighting.

Alternative 3: BOSCOM Development Project

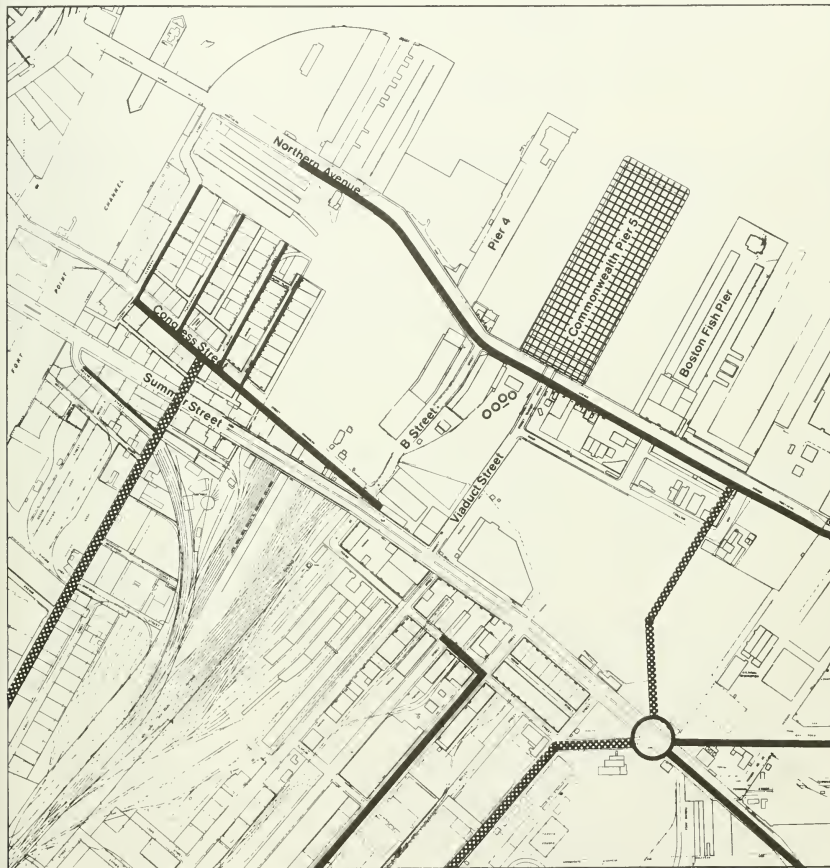
This alternative's estimated domestic water demand would be 306,000 gpd (213 gpm, average) or approximately 530 gpm average during the peak hour. The total average demand of this and the other new developments in the area would be approximately 600 gpm. Peak hour demands are estimated at 1500 gpm for the total area development scenario, well within the capacity of the existing low service system.

The fire flow, or high service demand of the BOSCOM development would be similar to that of the Preliminary Development Alternative (500 gpm minimum, 750 - 1,000 gpm for moderate hazard structures) and could be adequately served by the existing high service line. A normally closed connection to the low service line used as an emergency backup supply would be desirable. The specific measures to be taken for fire protection will be determined through meetings with the developer, City Fire Marshal and the Water and Sewer Commission.

SANITARY SEWER SYSTEM

The sanitary sewer system serving the study area is operated and maintained by the Boston Water and Sewer Commission. The main sewer branch which serves Commonwealth Pier is a pipe of varying diameter (15 inch and 18 inch) in Northern Avenue, extending from Pier 1 (west) to approximately 200 feet east of the Trilling Way/Northern Avenue intersection (see Figure IV-26). At Trilling Way, it flows into a 24 inch diameter trunk line which proceeds southward, where it joins other pipes (which serve the Boston Marine Industrial Park to the east) at a pump station at Summer and E. Streets. From that point, sewage travels

Sanitary Sewer System



Source: Boston Water and Sewer Commission; and E. Lionel Pavlo Engineering Co., Inc. Final Utility Master Plan and Report: Northern Avenue/Commonwealth Flats South Boston, September 1981.

-  > Sewage collection mains
-  Trunk lines (24" or larger)
-  Pump station

0 1/8 1/4 mile

145 Utilities



southward via a 24 inch pipe in E Street until it reaches the area interceptor in West First Street.

Investigation of the system in the vicinity of Commonwealth Pier reveals that the pipes in Northern Avenue are surcharged and have an excessive grease build-up--probably resulting from discharges from restaurants, seafood processing and other commercial/light industrial firms in the area (E. Lionel Pavlo Engineering Co., Inc., September 1981). It was also found that the surcharge conditions were due in large part to settlement in part of the 24 inch pipe between Northern Avenue and Summer Street along Trilling Way. Currently, the system is operating with little evidence of back-up despite the surcharge conditions and grease build-up. Its apparent average flow into the Summer Street pumping station is 1,120 gallons per minute. Repair or replacement of the sagging portion of the 24 inch line would significantly improve the flow and capacity of the Northern Avenue branch. A study of the system conducted by Linenthal, Eisenberg, Anderson, Inc. for the Boston Water and Sewer Commission (December 1980) indicated that under non-surcharging conditions, the existing system can deliver approximately 6,300 gallons per minute (gpm) to the pump station and that the existing pump station--if reconditioned and functioning properly--can handle the flow with only two of its three pumps.

The Boston Water and Sewer Commission recognizes that substantial new development is likely in the waterfront area. Repairs to deteriorating sections of the sewer system are planned. A new lift station (the pivotal element in the system) is being planned and is likely to be operational by 1984. The Commission is attempting to tailor its future sewer system improvements to the long range development potential of the area.

In order to facilitate the BOSCOM project, Massport has made a commitment to upgrade the sewer system service for Commonwealth Pier, the Fish Pier, and other properties along Northern Avenue. Massport will assume a major portion of the capital costs of the new sewage lift station at Summer Street, and will replace the sagging 24" collector line. Massport has retained O'Brien and Geary, Consulting Engineers, to design the lift station at Summer Street and other improvements to the sewer line serving Commonwealth Pier and its environs. A contract between Massport and O'Brien and

Geary was signed on September 1, 1982. In addition, Massport is working with the Boston Water and Sewer Commission to insure proper coordination of Commonwealth Pier related improvements with other sewer system improvements under consideration by the Commission for this part of South Boston.

SEWER SYSTEM:
DESCRIPTION OF IMPACTS

Sewage flows were estimated for Alternatives 1-3. The calculations are based on the sewage flow estimates published in Title 5 - Sanitary Sewage Regulations filed by the Massachusetts Office of Environmental Affairs, Department of Environmental Quality Engineering. The sewage generation rates used approximate the maximum generation rates for general land use types at full occupancy. While more accurate estimates for average daily sewage generation could be made given specific occupancy levels, uses, and visitation of individual projects, use of Title 5 estimates are valuable for approximating peak or "worst case" conditions.

Alternative 1: No-Build

If no new development occurs at Commonwealth Pier, the sewer system would probably continue to serve the Pier and other Northern Avenue businesses over the short term; however, unless structural repairs are made to the system--particularly to the sagging 24 inch line--its capacity might deteriorate, possibly resulting in back-ups.

Several new developments are proposed in the South Boston waterfront area, and are expected to be completed by 1987. The developments include office space on the Fish Pier, major residential and commercial development on Piers 1-4, and expansion at Boston Marine Industrial Park. These developments could add as much as 465,000 gallons per day (gpd) maximum, which could increase the current system flow to the lift station by an average of 323 gallons per minute (gpm). Assuming peak hour flows exceed average by 250%, approximately 800 gpm of sewage would be generated by the area new development (excluding Commonwealth Pier), well in excess of current system capabilities. Assuming the problem of settling pipes can be remedied, the additional flow probably could be accommodated by the lift station. If additional major development comes on line over the next 20 years, other improvements to the sewage system may become necessary.

Alternative 2: Preliminary Development Concept

This alternative proposes a major commercial development of over 1.3 million square feet including office, exhibition, restaurants and a hotel. The estimated sewage flows (based on the Department of Environmental Quality Engineering, Title 5 regulations) would be approximately 117,000 gpd, an average of 80 gpm. When the sewage generation of other likely development is added (approximately 320 gpm), the total additional flow to the lift station would be approximately 400 gpm (an increase of 36 percent over current average flows of 1,120 gpm). At peak hour conditions, the incremental flows might reach 1000 gpm, assuming a 250% increase of peak over average. Of this increment at peak flows, 200 gpm could be attributed to the Preliminary Development Concept. Assuming repairs are made to the settling 24 inch main, the additional flow could be accommodated by the existing pumping station, although repairs to the lift station and increases in its capabilities are indicated. If any additional major development occurs, the developer and the Water and Sewer Commission should cooperate to insure that the system's capacity is not exceeded.

Alternative 3: BOSCOM Development Project

This alternative proposes 1.3 million square feet of development including a trade mart, conference facilities, offices, restaurants, stores and a hotel. The office component is substantially less than that of the Preliminary Development Concept; however, all the other commercial components are larger. The estimated maximum sewage generated would be 260,000 gpd (approximately 180 gpm) contributed by the BOSCOM project. If the additional sewage generation of other development likely to occur in the area is added to that amount, the total increased flow toward the pumping station would be approximately 500 gpm (a 45 percent increase over the current flow of 1,120 gpm). At peak hour conditions, total incremental flows might reach 1250 gpm, of which 450 gpm would come from BOSCOM:

	<u>Average</u>	<u>Peak</u>
Current Flows	1120 gpm	--
1987 Other Development	320 gpm	800 gpm
1987 BOSCOM	180 gpm	450 gpm
Subtotal 1987	500 gpm	1250 gpm
Total (Current + 1987)	1620 gpm	--

Massport is committed to improving the capacity of the sewerage collection system serving Commonwealth Pier in order to facilitate the redevelopment of the Pier as proposed by BOSCOM. This commitment includes a major role in providing for the capital costs to repair the settle pipes and rebuild the lift station.

STORM DRAINAGE

The main storm drain for the Massport properties, Commonwealth Pier and the Flats, lies under the viaduct which links the Pier with Summer Street, and discharges into Boston Harbor under the southern corner of Commonwealth Pier. Storm drainage on the Pier is also discharged into the harbor via downspouts on the Pier structure. Northern Avenue catch basins in the vicinity of Commonwealth Pier empty directly into the harbor. This drainage system is likely to be retained under the No-Build Alternative.

Both Build Alternatives would potentially modify the drainage patterns on the Pier due to the addition of new structures, open space, walkways, etc. However, the system would still discharge into the harbor. The parking areas on the Pier would be within the structure and would not contribute to the storm drainage system. If an additional major parking area is built on the Flats, the storm drainage system for that area would be equipped with grease and oil separators to prevent polluted runoff from reaching the harbor.

As part of the BOSCOM development project, Massport is committed to a thorough investigation, repair and replacement program for the Pier area storm drainage system, offering potential water quality benefits for

Boston Harbor. In addition, Massport will require a long-term commitment from the developer, providing periodic inspection and maintenance of grease traps and oil separators, and any other management practices as may be appropriate.

**GAS AND ELECTRICITY
SUPPLIES**

Gas service to the project area is provided by 12-inch gas mains in Northern Avenue and B Street. Commonwealth Pier does not currently have gas service, but if either of the Build Alternatives is implemented, the developer may seek to establish such service for space and hot water heating. The gas supplier to the area, the Boston Gas Company, is currently operating under a self-imposed moratorium, permitting no new service extensions. However, since the company anticipates ample gas supplies by Winter 1982-83, the moratorium could be lifted shortly thereafter. Responsibility for insuring that gas service will be available (if and when needed) lies with the developer.

Electric power lines for the Commonwealth Pier area are located along Northern Avenue, supported above ground by utility poles. This above ground 13,000 volt power line has no significant surplus capacity. Currently, the Pier and several smaller buildings along Northern Avenue are also supplied by an inground power service at 4,160 volts, but it has no surplus capacity either. The Build Alternatives would have electrical power requirements in excess of 6,500 kilovolt-amperes. If major new facilities are built on the Pier, the developer will need to make arrangements with the electrical power utility, Boston Edison, to insure that sufficient power will be supplied, and that the equipment installed (transformers, power lines, underground ducts, etc.) will be compatible with the development.

Boston Edison has no steam lines in the vicinity of Commonwealth Pier, and so the project will not benefit from the availability of relatively low-cost steam heat. However, this is a minor advantage during construction, as there will be no problems of interference with steam pipes.

Massport and the BOSCOM developers are committed to energy conservation through the design and operation of the redeveloped Commonwealth Pier. Although it is premature to establish a building energy budget, both active and passive means for conservation, reuse of

waste heat, day-lighting, and the like, are being actively considered. Heat pump systems for space cooling in summer are also being evaluated.

PUBLIC UTILITIES
SUMMARY OF IMPACTS AND
MITIGATION MEASURES

The public utilities evaluated include water supply, sewer system capacity, storm drainage, gas supply and electrical power service. The potential impacts of the No-Build Alternative, as well as the two development Alternatives, are summarized below for all the utilities studied.

Water Supply. All the alternatives evaluated would generate additional demand upon both the low service and high service water systems. The low service system which currently can supply 5,900 gpm at residual pressures, can easily accommodate the total domestic demand for the largest development scenario--the BOSCOM Alternative. The high service system can supply 1,350 gpm, a sufficient flow for the Preliminary Development and BOSCOM Alternatives. Whether it is adequate to protect other major projects proposed in the study area (some of which are industrial), depends on the sizes, design factors, hazard levels and protection systems of the specific projects. Since the low service system has substantial excess capacity, it could be tapped as an emergency backup water supply.

The BOSCOM project will be designed to minimize water use. Conservation measures will include the use of low flow fixtures and pressure reduction valves.

Sanitary Sewer System. The existing sewer infrastructure serving Commonwealth Pier and other businesses along Northern Avenue shows evidence of the need for structural repairs. Once sagging sewer pipes are repaired and the pumps at the system's lift station are reconditioned or replaced, the system, which now has flows of 1,230 gpm, could handle approximately 6,300 gpm. This capacity could accommodate the No-Build Alternative, which would add approximately 323 gpm to the current flow. While the Preliminary Development Concept and the BOSCOM Alternative would generate significant sewage flows--81 and 180 gpm respectively--neither would cause total flows to exceed the system's design capacity, even if other concurrent development is implemented in the study area.

Water conservation measures incorporated into the BOSCOM project will help reduce the amount of sewage flow generated by the project. These measures will include the use of low flow fixtures and water pressure reduction valves.

Storm Drainage. Currently, the storm drains on Northern Avenue and on the Massport properties discharge to Boston Harbor. Redevelopment of Commonwealth Pier would result in minor modifications in the Pier's present drainage patterns, but the volume discharged to the harbor would not change significantly. No new major outdoor parking areas would be built without grease and oil traps in the drainage systems to prevent the discharge of polluted runoff into the harbor.

Gas Supply. If a build alternative is selected, the developer might wish to obtain gas service. A 12-inch gas main in Northern Avenue is the likely source for supplying Commonwealth Pier. The local gas utility company, Boston Gas Company, currently has imposed a moratorium on new service connections; however, it expects to end the moratorium by late 1982 or early 1983. The developer would contact Boston Gas Company directly to arrange for service.

Electric Power. The two electric power lines along Northern Avenue are adequate for current needs, but they do not have sufficient excess capacity to accommodate major new development if the proposed development requires more than 6,500 KVA. This new demand can be met by Boston Edison if new lines and transformers are brought to the area. The developer should approach Boston Edison directly to arrange for the provision of adequate electrical power.

Energy conservation measures will be incorporated into the design of BOSCOM. Energy use will be minimized through the use of computerized design and controls in the building, as well as through waste heat recycling, a heat pump for HVAC, insulation, lighting levels and the selection of fixtures, and use of active and/or passive solar energy.

Construction

Massport, FMR and the designated contractor will coordinate with the appropriate utility agencies and companies to schedule construction activities so as to minimize or avoid disruptions of service in the area.

INTRODUCTION

A concern raised by the Massachusetts Aeronautics Commission (MAC) after the filing of the Draft EIR was the potential for the BOSCOM development to be sensitive to noise from Logan Airport, specifically, departures from Runway 27. MEPA responded to MAC's concern by requiring a discussion of possible noise impacts from Logan's Runway 27, including data on average daily number of Runway 27 departures and external Lmax noise levels from Runway 27 departures at the apron and Headhouse ends of Commonwealth Pier. In addition, MEPA required a discussion of noise-proofing techniques available for the hotel and trade mart, and predictions in the amount of reduction in Lmax expected from each.

NOISE LEVELS AT COMMONWEALTH PIER

The airport operations which most severely impact Commonwealth Pier are turbojet departures on Runway 27. The heaviest use of Runway 27 occurs during the winter months, as can be seen from Figure IV-27, Percentage of Departures from Runway 27, 1980 and 1981. The percentage of departures on Runway 27 peaks during the 4-month period November through February, when the dominant wind directions are from the west and northwest.

Massport's data on individual runway usage is expressed in terms of percentages of the total monthly use of all runways rather than the actual numbers of operations (as requested by MEPA). FAA Air Traffic Records provide monthly counts of total operations at the airport. Daily counts of the number of operations on runways are made by the Massport Airport Fire and Crash Station personnel. Massport has found that by converting these counts into monthly percentages apportioned to each runway, a more accurate summary statistic of runway usage is obtained. (See Figure IV-27.)

Taking the percentage of departures on Runway 27 developed by Massport and the record of total operations provided by FAA, an average of approximately 1350 monthly departures and 45 daily departures can be estimated for Runway 27.

Runway 27: Percentage of Jet Departures

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Yearly
1980	31%(1)	31(1)	15(1)	3(1)	11(1)	15	9	6	13	28	15	20	16
1981	46%	17	24	19	12	20	2(2)	2(2)	19	16	26	30	19
1982	33%	20	23	27	5	8							

1) Percentage of take-offs for all aircraft over 12,500 lbs.

2) Runway 27 under repair.

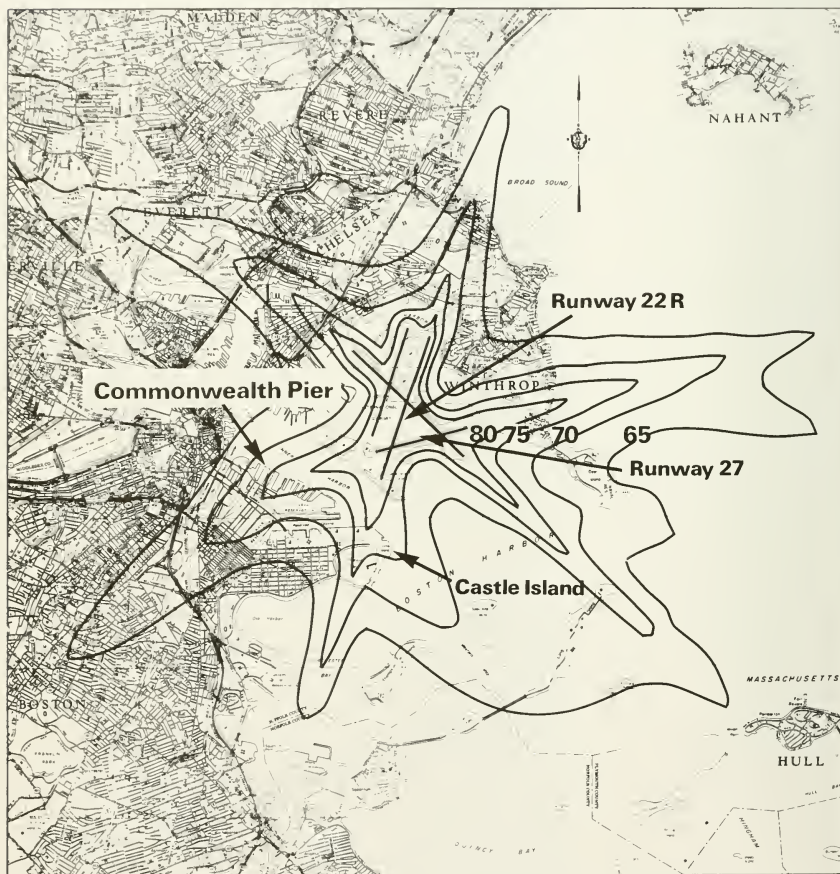
The generally accepted measurement unit for analysis of noise impacts from airport operations is the Day-Night Sound Level (Ldn)--rather than Lmax as requested by MEPA. Ldn is the equivalent day-night sound level in decibels with a 10 decibel penalty for nighttime noise. Both the U.S. Environmental Protection Agency and the Federal Aviation Administration (FAA) recommend the use of Ldn to characterize average sound levels in populated areas throughout the day and night. The FAA defines an annual average of 65 or more Ldn as a serious noise impact. The 1980 annual average noise level contours for Logan Airport, as shown in Figure IV-28, were developed by Massport using the FAA's Integrated Noise Model (INM) computer program. Input for the model included length and orientation of the airport's runways, departure and arrival flight tracks, airport operations by aircraft type and time of day, and distribution of runway use. The model used this data to simulate aircraft operations and then computed the noise generated by these operations in annual average noise level (Ldn). Contours were drawn by joining points of equal Ldn values. The model shows that Commonwealth Pier is in a 70 Ldn noise contour.

Use of Runway 27 for jet takeoffs in a westerly direction is largely limited to such typical jets as Boeing 727's and 737's, DC-9's, and BAC-111's. They are generally quieter than the older Boeing 707's and DC8's, but noisier than the large 747's, DC-10's and L-1011's.

A large body of recent data collected at Castle Island during takeoffs from Logan's Runway 22R is available and provides a good indication of the Lmax levels requested by MEPA. This already existing information is almost certainly more accurate than any "quick" measurements at Commonwealth Pier during takeoffs from Runway 27. The two sites are in a virtually identical relationship to the respective runways: 1) distance between the start-of-roll point on Runway 27 and Commonwealth Pier and the start-of-roll point on Runway 22R and Castle Island are approximately the same, and 2) relationship to the flight paths from those respective runways is approximately the same. This results in flyovers at comparable altitudes. Due to the characteristics of aircraft noise, no noticeable difference in noise levels between the apron and the Headhouse would be anticipated.

Logan Airport Aircraft Noise Contours

1980 Average Day/Night, Ldn 65, 70, 75, 80



Source: Massport

Based upon these nearby studies, the typical "Lmax" noise level at Commonwealth Pier is 90 dBA. This level (as qualified below) persists momentarily--perhaps for 1 second or less. More pertinently, levels within 10 dB of the maximum, i.e. in the 80-90 dBA range, persist for approximately 20 seconds per takeoff. The major qualification is that, whereas the average estimated peak noise level is 90 dBA, individual takeoffs can be louder or quieter by as much as 10 dB.

Bolt Beranek and Newman, Inc. (BBN), consultants in aircraft noise analysis and acoustic design, have been retained as part of the BOSCOM design team and have established the Lmax level at 90 dBA, and developed a range of attenuation goals for various portions of the BOSCOM complex.

DESCRIPTION OF IMPACTS:
NOISE ATTENUATION GOALS

Both the Ldn noise levels as indicated by the noise contour map and the estimated Lmax levels suggest that noise attenuation will be required for the uses proposed at Commonwealth Pier. On the one hand, noise reduction standards for various BOSCOM uses have been recommended by the Federal Aviation Administration (see Figure IV-29) for uses within a 70-75 Ldn contour. On the other hand, Lmax levels must be taken into consideration for conference areas, hotel rooms and other uses. Therefore, at the recommendation of Bolt Beranek and Newman, BOSCOM has established noise reduction goals in relation to Lmax levels for each sensitive use within the BOSCOM complex.

FAA Guidelines -- Existing Federal guidelines for Airport Noise Compatibility Planning (Federal Aviation Administration 14 CFR Part 150) neither encourage nor prohibit the development of specific land uses in areas which receive noise from airport operations. However, as stated above, they do make recommendations concerning noise reduction measures for buildings exposed to noise levels exceeding 65 Ldn. Commonwealth Pier is located in a 70 Ldn noise contour (as defined by the FAA Integrated Noise Model). The recommended sound attenuation for the trade mart is 25 dB. A 30 dB attenuation is recommended for the hotel.

Land Use Compatibility

With Yearly Day-Night Sound Levels and Noise Level Reduction (NLR) Guidelines

Land Use	Yearly Day-Night Average Sound Level (Ldn) in Decibels				
	Below 55	55-65	65-70	70-75	Above 75
<u>Residential</u>					
Extensive outdoor use	Y	Y(1)	25	N	N
Moderate outdoor use	Y	Y	25	30	N
Limited outdoor use	Y	Y(1)	25	30	35
Mobile home parks	Y	Y	N	N	N
Transient lodgings	Y	Y(1)	25	30	35
<u>Public Buildings</u>					
Schools, libraries, churches	Y	Y(1)	25(1)	30	N
Hospitals, nursing homes	Y	Y(1)	25(1)	30	N
Auditoriums, concert halls	Y	Y	25	30	N
Governmental services	Y	Y	Y	25	30
<u>Commercial Buildings</u>					
Offices, business and professional	Y	Y	Y	25	30
Wholesale and retail trade	Y	Y	Y	Y(2)	Y(3)
Theaters and restaurants	Y	Y	Y	30	N
Utilities	Y	Y	Y	Y(2)	Y(3)
<u>Production</u>					
Manufacturing, general	Y	Y	Y	Y(2)	Y(3)
Photographic and optical	Y	Y	Y	25	30
Agriculture (except livestock)	Y	Y	Y(5)	Y(6)	Y(7)
Livestock farming and breeding	Y	Y	Y(5)	Y(6)	N
Mining and fishing	Y	Y	Y	Y	Y
Forestry	Y	Y	Y	Y	Y
<u>Recreational</u>					
Parks, resorts, camps	Y	Y(1)	Y(1)	N	N
Outdoor spectator sports arenas	Y	Y	Y(4)	Y(4)	N
Outdoor music shells	Y	Y(1)	N	N	N
Amusement parks	Y	Y	Y(1)	Y(1)	N
Natural wildlife areas	Y	Y(1)	Y(1)	N	N

Numbers in parentheses (1) refer to notes.

KEY

Y = Yes	Land use and related structures compatible without restrictions
N = No	Noise Level Reduction (NLR) (outdoor to indoor) to be achieved through incorporation of noise attenuation into the design and construction of the structure.
25, 30, or 35	Land use and related structures generally compatible; measures to achieve NLR of 25, 30, or 35 must be incorporated into design and construction of structure.

NOTES

- Where the designation of these uses are compatible at the indicated sound levels is inconsistent with a more stringent local requirement, that more stringent local requirements may be substituted.
- Measures to achieve NLR of 25 must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise sensitive areas or where the normal noise level is low.
- Measures to achieve NLR of 30 must be incorporated into the design and construction of portions of those buildings where the public is received, office areas, noise sensitive areas or where the normal noise level is low.
- Land use compatible provided special sound reinforcement systems are installed.
- Residential buildings require an NLR of 25.
- Residential buildings require an NLR of 30.
- Residential buildings not permitted.

* Source: U.S. Federal Aviation Administration, Part 150.

BOSCOM Standards -- As stated earlier, noise reduction goals recommended by Bolt Beranek and Newman relate to the Lmax level of 90 dBA and are being used by BOSCOM designers in the siting of uses within the complex and in the choice of wall, roof and glazing materials. Noise attenuation goals have been recommended for the following background noise limits for four basic groups of uses within the complex:

- o Lecture halls and critical meeting rooms where speech is not necessarily amplified -- 42 dBA.
- o Most other meeting rooms (amplified speech) as well as hotel guest rooms -- 52 dBA.
- o Offices, small showrooms, and most other occupied spaces except the largest -- 57 dBA.
- o The Main Exhibit Hall and any other space where there is steady activity noise (not for large-group meetings) -- up to 60 dBA.

With exterior noise levels near 90 dBA, the required attenuation to meet these goals ranges from 30 dBA to about 50 dBA. Achievement of these goals will therefore meet the most stringent FAA guidelines discussed above, which call for a 30 dBA reduction.

There are three conditions where the occasional increment in noise due to fly-overs can be a distinct distraction. First, in meeting rooms, if it obliterates speech; this tends to happen above 55 dBA. Second, in hotel rooms, if it interferes with sleep. Third, in any interior space where the occupants have no visual contact with the outdoors and thus may be startled by a sudden crescendo of noise. In the second and third cases, the critical factor is not so much the level of the intrusive noise, but rather the difference between the steady background noise and the intrusion.

NOISE ATTENUATION TECHNIQUES

As part of the BOSCOM design process, noise attenuation performance of several likely materials for use on the exterior of the building was reviewed. Based on known or estimated Sound Transmission Class (STC) ratings, the dBA difference between the exterior and the interior noise levels that each is capable of providing was estimated. Materials reviewed took into consideration the requirement to minimize weight due to substructural conditions. A choice of specific

materials will be made as the design proceeds and in light of noise reduction goals in various portions of the building. Materials are being considered in three categories: roof construction, wall/window construction, and slabs. Each is discussed below and the expected decibel reduction indicated.

1. Roof Construction

- a. Any single roof deck weighing on the order of 10 to 20 psf, e.g. steel or wood deck with insulation and built-up roofing -- est. 30 dBA.
- b. A similar roof deck plus suspended mineral fiber (not fiberglass which is very light and porous) acoustical ceiling -- est. 35 to 40 dBA.
- c. A similar roof deck plus suspended gypsum board ceiling -- est. 45 to 50 dBA.

Note: Insulation assumed over suspended ceilings; gypsum board ceilings can be further improved by using two laminated layers and resilient hangers; the basic deck also might be improved by use of a resilient layer of insulation between the deck proper and the roofing.

- d. Single-glazed skylights -- est. 25 dBA; double-glazed, if spaced well apart, up to 40 dBA.

2. Wall/Window Construction

- f. Single plate or thermal double glass (airspace less than 1 inch) -- est. 25 dBA.
- g. Double glazing with airspace measuring several inches -- est. 30 to 40 dBA, depending on details.
- h. Opaque spandrel construction (typical of curtain walls), backed by studs and gypsum board -- est. 40 dBA. (The spandrel alone would be no better than glass -- perhaps 30 dBA).
- i. Precast concrete or masonry weighing on the order of 40 psf -- est. 40 dBA; more if backed by studs and gypsum board; superior rumble control due to mass.

Note: With all these wall/window constructions, higher orders of performance can be achieved by building a separate inner wall that makes no rigid contact with the outer wall. The practical performance limit is likely to be around 50 dBA.

j. Exterior doors -- est. 15 dBA; possibly up to 30 dBA if well gasketed and heavy.

3. Slabs (as over the open Ground Floor)

k. Thin, single slab such as a few inches of light-weight concrete on steel deck -- est. 35 dBA.

l. Thick (6-inch-plus) structural concrete slab -- est. 45 to 50 dBA.

m. Resiliently separated double slab -- est. 55 dBA, or more if heavy and very well detailed.

Note: Performance in excess of 50 dBA also might be achieved with lighter double construction involving resiliently hung soffits.

In summary, exterior noise can be reduced with relative ease by up to about 30 dBA. Performance in the 30 to 50 dBA range can be achieved with special, well detailed constructions which need not be very heavy.

SUMMARY AND MEASURES
TO MINIMIZE ADVERSE
EFFECTS

At the present stage of design for BOSCOM, realistically achievable noise attenuation has been summarized by Bolt Beranek and Newman in terms of mitigation measures as follows:

- o Lecture halls and critical meeting rooms: interior location (away from exterior skin) strongly recommended; occasional, faint noise intrusion still possible.
- o Other meeting rooms: interior location preferred; if along the exterior, prefer double construction without windows (or with amply spaced double glazing).
- o Hotel guest rooms: exterior location implicit in design; superior double glazing recommended.

- o Showrooms and other "exterior" spaces (those inside the building should be satisfactory): curtain wall with thermal glass; roof deck plus acoustical ceiling (3rd Level); heaviest possible floor slab (1st Level).
- o Main Exhibit Hall: combination of materials yet to be selected which meet noise attenuation goals.

As shown above, noise attenuation performance appears to be well within the capabilities of currently available construction materials and methods. In addition, as BOSCOM's design goals which work with an L_{max} of 90 dBA are achieved, this will assure that Federal guidelines for noise compatibility will be met as well. Moreover, as an increasing proportion of commercial jet aircraft conform to the noise emission standards set forth in Federal Aviation Administration Regulation 14 CFR Part 36 (full compliance is scheduled for 1988), the magnitude of the noise impact will diminish.

While the orientation and site placement of the hotel could have some effect on which outdoor areas are better shielded from aircraft noise, their influence on the noise levels in interior spaces would be minimal compared to the effect of good noise insulating design of the individual structures.

The proposed hotel at Commonwealth Pier would not be the only hotel in Boston located in areas impacted by airport noise. The Airport Hilton located on Airport Road is within the 70 Ldn noise contour. The Ramada Inn on McClellan Highway in East Boston is within a 64 Ldn contour. Generally, hotels and transportation nodes (bus or train terminals, highway intersections, airport, etc.) are not incompatible land uses with airports. In fact, close proximity to an airport can be a distinct advantage to a hotel or trade mart.

INTRODUCTION

In response to the Draft EIR, the issue of the impact of the BOSCOM development on air transportation was raised by the Massachusetts Aeronautics Commission (MAC). Potential disruptions of airspace at Logan Airport due to a tall structure at Commonwealth Pier could preclude the use of the presently closed extensions to Runways 4L and 9. Massport's initial analysis concluded that development at Commonwealth Pier will not disrupt airspace at Logan Airport, nor preclude the use of extensions at Runway 4L and 9. However, in response to MAC's concern, Massport, as project sponsor, submitted a notice of the proposed BOSCOM development to the FAA on September 1, 1982 to obtain a final determination of this issue.

Whether the proposed structure at Commonwealth Pier would be disruptive to airspace at Logan is under study by the Federal Aviation Administration (FAA). Part 77 of the Code of Federal Regulations, entitled "Objects Affecting Navigable Airspace", defines the requirements for submitting a notice of construction or alterations and the standards for determining airspace obstructions. The notice requirement specifies the characteristics of a proposed structure that must be subjected to aeronautical study by the FAA. In the event that a structure meets the notice requirement, the sponsor is required to submit a notice to the FAA. The FAA, in turn, performs the study and determines whether the proposal would be a hazard to air navigation per the obstruction standards in Part 77 subpart C. This study will address present and future Instrument Flight Rules (IFR) and Visual Flight Rules (VFR) aeronautical operations and procedures as well as any possible changes to these operations. Notice must be submitted at least thirty days prior to the construction date or thirty days prior to the submission of a construction permit, whichever is earlier.

The obstruction standards in subpart C of Part 77 subdivide airspace surrounding civil airports into several imaginary surfaces. The dimensions and heights of the airspace surfaces are defined as a function of the location and instrumentation of the airport runways. The location of the site and the instrumentation of the relevant runways dictate what obstruction criteria apply to a specific site. The height of a proposed structure that exceeds the corresponding airspace surface is in violation of the obstruction standards.

THIS IS YOUR WORKSHEET

DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION		Form Approved O.M.B. No. 004-R0001 NOTICE TO PREPARER OF FORM	
NOTICE OF PROPOSED CONSTRUCTION OR ALTERATION			
1. NATURE OF STRUCTURE (Complete both A and B below)			
A. (Check one) ☐ NEW CONSTRUCTION ☒ ALTERATION			
B. (Check one) ☒ PERMANENT ☐ TEMPORARY		(State length of time) <i>Mos.</i>	
2. NAME AND ADDRESS OF INDIVIDUAL, COMPANY, CORPORATION, ETC. PROPOSING THE CONSTRUCTION OR ALTERATION (Number, Street, City, State and Zip Code)			
TO James Lucas Chief, Air Traffic Division FAA 12 New England Executive Park Burlington, MA 01803			
3. TYPE AND COMPLETE DESCRIPTION OF STRUCTURE			
The proposed alteration of Commonwealth Pier 5 will consist of modifications inside the existing sheds as well as the addition of an eight story structure above the existint sheds. This addition will occur only at the northern end of the sheds and will step up in height from north to south.			
4. LOCATION OF STRUCTURE			
A. COORDINATES (To nearest second)		B. NEAREST CITY OR TOWN, AND STATE	
LATITUDE 42° 21' 9.1575" N LONGITUDE 71° 2' 21.6809" W		(1) DISTANCE FROM NEAREST NEAREST RUNWAY 0.87 MILES (2) DIRECTION FROM 4B SW	
C. NAME OF NEAREST AIRPORT, HELIPORT, OR SEAPLANE BASE Logan International Airport		(1) DISTANCE FROM NEAREST POINT OF NEAREST RUNWAY 6740	
(2) DIRECTION FROM AIRPORT SW			
D. DESCRIPTION OF LOCATION OF SITE WITH RESPECT TO HIGHWAYS, STREETS, AIRPORTS, PROMINENT TERRAIN FEATURES, EXISTING STRUCTURES, ETC. (Attach a highway, street, or any other appropriate map or scaled drawing showing the relationship of construction site to nearest airport(s). If more space is required, continue on a separate sheet of paper and attach to this notice.)			
The project site is Commonwealth Pier 5 in South Boston on Northern Avenue, at the end of Viaduct Street. The pier is bounded by Northern Avenue on one side and by water on the other three sides. The pier occupies approximately 11 acres and is presently occupied by a two-level shed structure of some 835,000 s.f.			
5. HEIGHT AND ELEVATION (Complete A, B and C to the nearest foot)		6. WORK SCHEDULE DATES	
A. ELEVATION OF SITE ABOVE MEAN SEA LEVEL		13.35'	
B. HEIGHT OF STRUCTURE INCLUDING APPURTENANCES AND LIGHTING (If any) ABOVE GROUND, OR WATER IF SO SITUATED		156.65'	
C. OVERALL HEIGHT ABOVE MEAN SEA LEVEL (A+B)		170.0'	
7. OBSTRUCTION MARKED AND/OR LIGHTED IN ACCORDANCE WITH CURRENT FAA ADVISORY CIRCULAR 70/7460-1, OBSTRUCTION MARKING AND LIGHTING		A. MARKED B. AVIATION RED OBSTRUCTION LIGHTS C. HIGH INTENSITY WHITE OBSTRUCTION LIGHTS D. DUAL LIGHTING SYSTEM	
		YES NO	
		X	
		X	
		X	
I HEREBY CERTIFY that all of the above statements made by me are true, complete, and correct to the best of my knowledge.			
8. NAME AND TITLE OF PERSON FILING THIS NOTICE (Type or Print)		9. SIGNATURE (In ink)	
		10. DATE OF SIGNATURE	
		11. TELEPHONE NO. (Precede with area code)	
Persons who knowingly and willfully fail to comply with the provisions of the Federal Aviation Regulations Part 77 are liable to a fine of \$500 for the first offense, with increased Penalties thereafter as provided by Section 902(a) of the Federal Aviation Act of 1958 as amended.			

§77.13 Construction or alteration requiring notice.

(a) Except as provided in §77.15, each sponsor who proposes any of the following construction or alteration shall notify the Administrator in the form and manner prescribed in §77.17:

(1) Any construction or alteration of more than 200 feet in height above the ground level at its site.

(2) Any construction or alteration of greater height than an imaginary surface extending outward and upward at one of the following slopes:

(i) 100 to 1 for a horizontal distance of 20,000 feet from the nearest point of the nearest runway of each airport specified in subparagraph (3) of this paragraph with at least one runway more than 3,200 feet in actual length, excluding heliports.

(ii) 50 to 1 for a horizontal distance of 10,000 feet from the nearest point of the nearest runway of each airport specified in subparagraph (3) of this paragraph with its longest runway no more than 3,200 feet in actual length, excluding heliports.

(iii) 25 to 1 for a horizontal distance of 5,000 feet from the nearest point of the nearest landing and takeoff area of each heliport specified in subparagraph (3) of this paragraph.

(3) Any highway, railroad, or other traverse way for mobile objects, of a height which, if adjusted upward 17 feet for an Interstate Highway that is part of the National System of Military and Interstate Highways where overcrossings are designed for a minimum of 17 feet vertical clearance, 15 feet for any other public roadway, 10 feet or the height of the highest mobile object that would normally traverse the road, whichever is greater, for a private road, 23 feet for a railroad, and for a waterway or any other traverse way not previously mentioned, an amount equal to the height of the highest mobile object that would normally traverse it, would exceed a standard of subparagraph (1) or (2) of this paragraph.

(4) When requested by the FAA, any construction or alteration that would be in an instrument approach area (defined in the FAA standards governing instrument approach procedures) and available information indicates it might exceed a standard of Subpart C of this part.

(5) Any construction or alteration on any of the following airports (including heliports):

(i) An airport that is available for public use and is listed in the Airport Directory of the current Airmen's Information Manual or in either the Alaska or Pacific Airmen's Guide and Chart Supplement.

(ii) An airport under construction, that is the subject of a notice or proposal on file with the Federal Aviation Administration, and except for military airports, it is clearly indicated that that airport will be available for public use.

(iii) An airport that is operated by an armed force of the United States.

(b) Each sponsor who proposes construction or alteration that is the subject of a notice under paragraph (a) of this section and is advised by an FAA regional office that supplemental notice is required shall submit that notice on a prescribed form to be received by the FAA regional office at least 48 hours before the start of the construction or alteration.

(c) Each sponsor who undertakes construction or alteration that is the subject of a notice under paragraph (a) of this section shall, within 5 days after that construction or alteration reaches its greatest height, submit a supplemental notice on a prescribed form to the FAA regional office having jurisdiction over the area involved, if—

(1) The construction or alteration is more than 200 feet above the surface level of its site; or

(2) An FAA regional office advises him that submission of the form is required.

§77.15 Construction or alteration not requiring notice.

No person is required to notify the Administrator for any of the following construction or alteration:

(a) Any object that would be shielded by existing structures of a permanent and substantial character or by natural terrain or topographic feature of equal or greater height, and would be located in the congested area of city, town, or settlement where it is evident beyond all reasonable doubt that the structure so shielded will not adversely affect safety in air navigation.

(b) Any antenna structure of 20 feet or less in height except one that would increase the height of another antenna structure.

(c) Any air navigation facility, airport visual approach or landing aircraft arresting device, or meteorological device, of a type approved by the Administrator, or an appropriate military service on military airport the location and height of which is fixed by its functional purpose.

(d) Any construction or alteration for which notice is required by any other FAA regulation.

§77.17 Form and time of notice.

(a) Each person who is required to notify the Administrator under §77.13 (a) shall send one executed form set (four copies) of FAA Form 7460- Notice of Proposed Construction or Alteration, to the Chief, Air Traffic Division, FAA Regional Office having jurisdiction over the area in which the construction or alteration will be located. Copies of FAA Form 7460-1 may be obtained from the headquarters of the Federal Aviation Administration and the regional offices.

(b) The notice required under §77.13 (a) (1) through (4) must be submitted at least 10 days before the earlier of the following dates—

(1) The date the proposed construction or alteration is to begin.

(2) The date an application for a construction permit is to be filed. However, a notice relating to proposed construction or alteration that subject to the licensing requirements of the Federal Communications Act may be sent to the FAA at the same time the application for construction filed with the Federal Communications Commission, or at any time before that filing.

(c) A proposed structure or an alteration to an existing structure that exceeds 2,000 feet in height above the ground will be presumed to be a hazard to air navigation and to result in an inefficient utilization of airspace as the applicant has the burden of overcoming that presumption. Each notice submitted under the pertinent provisions of Part 77 proposing a structure in excess of 2,000 feet above ground, or an alteration that will make an existing structure exceed that height, must contain a detailed showing, directed to meeting this burden. Only in exceptional cases, where the FAA concludes that a clear and compelling showing has been made that would not result in an inefficient utilization of the airspace and would not result in a hazard to air navigation, will a determination of no hazard be issued.

(d) In the case of an emergency involving essential public services, public health, or public safety, that requires immediate construction or alteration, the 30-day requirement in paragraph (b) of this section does not apply and the notice may be sent by telephone, telegraph, or other expeditious means, with an executed FAA Form 7460-1 submitted within live thereafter. Outside normal business hours, emergency notices by telephone or telegraph may be submitted to the nearest FAA Flight Service Station.

(e) Each person who is required to notify the Administrator by paragraphs (b) or (c) of §77.13, or both, shall send an executed copy of FAA Form 7460-2, Notice of Progress of Construction or Alteration, to the Chief, Air Traffic Division, FAA Regional Office having jurisdiction over the area involved.

ADDRESSES OF THE REGIONAL OFFICES AND SAN JUAN AREA OFFICE

AL-ALASKAN REGION

Alaskan Regional Office
632 Sixth Avenue
Anchorage, Alaska 99501
Tel. 907-272-5561

WE-WESTERN REGION

Western Regional Office
5651 West Manchester Blvd.
Mail Address:
P.O. Box 92007
Worldway Postal Center
Los Angeles, California 90009
Tel. 213-670-7030 Ext. 548

EA-EASTERN REGION

Eastern Regional Office
JFK International Airport
Federal Building
Jamaica, New York 11430
Tel. 212-995-3333

NW-NORTHWEST REGION

Northwest Regional Office
FAA Building, Boeing Field
Seattle, Washington 98108
Tel. 206-767-2750

SO-SOUTHERN REGION

Southern Regional Office
3400 Whipple Street
East Point, Georgia 30344
Mail Address:
P.O. Box 20636
Atlanta, Georgia 30320
Tel. 404-526-7646

San Juan Area Office

RFD-1, Box 29A
Loiza Street Station
San Juan, Puerto Rico 00914
Tel. 791-2310

NE-NEW ENGLAND REGION

New England Regional Office
154 Middlesex Street
Burlington, Mass. 01803
Tel. 617-272-2350
RM-ROCKY MOUNTAIN REGION
Rocky Mountain Regional Office
10455 East 25th Avenue
Aurora, Colorado 80010
Mail Address:
Park Hill Station, P.O. Box 7213
Denver, Colorado 80207
Tel. 303-837-3937

GL-GREAT LAKES REGION

Great Lakes Regional Office
2300 East Devon Ave.
Des Plaines, Ill. 60018
Tel. 312-297-1970

SW-SOUTHWEST REGION

Southwest Regional Office
4400 Blue Mound Road
Mail Address:
P.O. Box 1689
Fort Worth, Texas 76101
Tel. 817-624-4911

CE-CENTRAL REGION

Central Regional Office
601 E. 12th Street
Kansas City, Mo. 64106
Tel. 816-374-3246

PC-PACIFIC REGION

Pacific Regional Office
1833 Kalakaua Avenue
Mail Address:
P.O. Box 4009
Honolulu, Hawaii 96813
Tel. 808-9550-491

DESCRIPTION OF ALTERNATIVES: BOSCOM

The object of the FAA aeronautical study is the proposed BOSCOM hotel structure. The hotel site is located 6740 feet from the nearest runway end at Logan Airport and will stand 156.65 feet above ground or 170 feet above mean sea level. Massport submitted this notice despite the fact that the project did not appear to meet the formal notification criteria specified in section 77.13. Figure IV-30 is a copy of the notification form as submitted, and the results of the FAA study is forthcoming.

In view of the obstruction standards and the design height of the proposed BOSCOM structure, no obstruction possibilities appear to exist. The BOSCOM architects were advised of the height limitations existing at the site and designed the structure accordingly. Further, the proposed development does not appear to preclude the use of extensions to Runway 4L and 9 or the establishment of runway minimums. It should be noted that this interpretation of Part 77 awaits confirmation by the FAA upon the completion of the aeronautical study now in progress. Again, the FAA study will address the effects of the proposed structure on present and possible future uses of the Logan Airport navigable airspace.

A related concern is the potential impact on Runway 4R Instrument Landing Systems (ILS) approaches caused by increased marine traffic as a result of the project. To clarify this point, Commonwealth Pier has been serving all classes of vessels since its construction in 1912 without inhibiting Runway 4R approaches, and will continue to be the focus of passenger activity after the completion of the project.

The potential for conflict between maritime activities in Boston Harbor and aviation at Logan Airport has already been examined by the FAA in connection with the development of other Massport marine facilities. Implementation of the Runway 4R ship detection system, developed by Massport and accepted by FAA, has eliminated this problem.

Measures to Mitigate Adverse Effects

The following mitigation measures are proposed for the potential adverse effects of the BOSCOM development proposal. No mitigation measures would be associated with a No-Build Alternative, and the Preliminary Development Concept, as a hypothetical proposal, was not advanced to a stage where the necessary mitigation measures could be determined.

TRANSPORTATION

- o Shuttle bus service between BOSCOM and major hotels in Boston will be provided by Massport and FMR Properties.
- o Marketing information and brochures provided to prospective Commonwealth Pier visitors will include information on the availability of the hotel shuttle bus service and the MBTA service.
- o Improvement of MBTA Routes 6 and 7 peak hour frequencies from the current 15-minute headways to 10-minute headways is being discussed with MBTA officials.
- o BOSCOM administration will seek to develop a close working relationships with the operators of the proposed hotel on Piers 1-3, in order to facilitate reservations of large blocks of rooms for out-of-town visitors during major BOSCOM shows. A courtesy van between the two buildings is an option.
- o BOSCOM will manage parking to discourage employees from driving to Commonwealth Pier. Provide preferential parking for carpoolers, and segregate parking areas for cruise ship patrons, hotel guests, and restaurant visitors.
- o Massport and BOSCOM will work to see that improvements are made to the Congress Street eastbound approach to Atlantic Avenue with the addition of a second left-turn lane.
- o Direct bus service between Logan Airport, downtown, and Commonwealth Pier. The bus schedule could be adjusted to meet increased demands on the first and last days of exhibitions.
- o Water taxi service between Logan Airport, Commonwealth Pier and Long Wharf has been proposed. Water taxis would provide a direct transit connection between Logan and Commonwealth

Pier, but this would only have a significant mitigating impact on the first and last days of a major show, as these are the only times when significant numbers of BOSCOM visitors will be traveling from or to Logan Airport. Bus service may be a more efficient means of transportation between BOSCOM visitors to and from the airport. However, as other developments proceed in the South Boston waterfront, water transportation may become a viable option.

AIR QUALITY

- o While the Commonwealth Pier redevelopment does not add significantly to CO levels, some measures can mitigate the high CO levels predicted due to baseline traffic along Atlantic Avenue. Upgraded roadway geometrics, encouragement of public transportation, private shuttles, and parking management can all contribute to minimizing air pollutants.
- o Elimination of all on-street parking along Atlantic Avenue from Summer Street to Northern Avenue would provide significant improvement to air quality as a short-term, low-cost mitigation measure.

HISTORIC SIGNIFICANCE

- o Preserve the Headhouse and shed facades through design certification under the Secretary of the Interior's Standards for Rehabilitation.

MARITIME ACTIVITIES

- o Massport will retain control of the Pier apron, and will invest resources in the expansion, repair and marketing of maritime uses at the Pier.
- o Provide new cruise ship terminal on two levels of the east apron, with space for such ancillary services as waiting areas, customs facilities, internal drop-off areas and parking integrated into BOSCOM.
- o Provide and market up to 900' of additional berthing for excursion boats, commuter boats and water taxis on the west apron of the Pier.
- o Allow for private vessel docking for BOSCOM business uses on the west apron in agreement with operators of the berth(s).

FOREIGN TRADE ZONE

- o Relocation of Foreign Trade Zone warehouse activity to appropriate location.
- o Continue promotion of FTZ's in other appropriate locations.
- o Possible utilization of FTZ designation within BOSCOM if appropriate activities materialize.

PUBLIC ACCESS

- o Massport will encourage public access along the west apron and on the north apron of the Pier. Public amenities such as benches will be provided at the harbor end, as consistent with maneuvering requirements of emergency vehicles.
- o Access for cruise ship, water taxi and excursion boat passengers will be assured by Massport.
- o Increased public access at evening/off-peak hours to restaurants and hotel facilities of BOSCOM, as appropriate.
- o Construction of a portal between Commonwealth Pier and Boston Fish Pier to provide a site for public enjoyment of the harbor edge.
- o Improvements in pedestrian amenities and streetscape along Northern Avenue.

PUBLIC UTILITIES

- o Implementation of improvements to Commonwealth Pier and vicinity sewer service, including cleaning, replacement of 24" sewer pipes, and reconstruction of the sewer lift station. Work is being coordinated with Boston Water & Sewer Commission.
- o Coordination with other utility companies (Boston Gas and Boston Edison) for the planning and subsequent provision of services so as to avoid disruption during construction, and to ensure adequate service for Commonwealth Pier activities.
- o To the maximum extent possible, the project will be designed to conserve water. Low flow fixtures and pressure reduction valves will be utilized to reduce water usage.

- o Computerized design and controls will be utilized to minimize energy use in the building. Energy conservation measures will include waste heat recycling, heat pump for HVAC, insulation, lighting levels and selection of fixtures, and the utilization of active and/or passive solar energy.

NOISE

- o BOSCOM will design and construct the redevelopment project to meet accepted criteria for noise levels for each individual use area--meeting rooms, exhibit halls, hotel rooms and so forth--treating both average noise levels and maximum aircraft noise levels predicted at the Pier.

CONSTRUCTION

In order to minimize construction impacts of the Commonwealth Pier Redevelopment Project, modern conscientious construction techniques will be followed. Performance standards for construction will be established by Massport and incorporated into an

agreement between Massport, FMR Properties and the designated contractor(s). At a minimum, these standards and mitigation measures during construction will include the following:

Transportation

- o Designate specific truck routes to avoid impacts on residential areas.
- o Select truck routes with adequate geometrics to avoid delay from truck turning maneuvers at tight corners.
- o All attempts will be made to maintain two-way flow of traffic on all streets to prevent excessive delays and to maintain adequate access to all abutters.
- o Parking for construction workers will be available on Commonwealth Flats.
- o It is expected that a police officer will oversee traffic in the area during construction.

Air Quality

- o Wet exposed areas and cover dust producing materials resulting from the demolition of a portion of the central shed, as appropriate.

Maritime Activities

- o Coordinate scheduling of construction to minimize conflicts with cruise ship dockings and other maritime activities to avoid conflicts with construction activities.
- o Relocation of docking facilities on a temporary basis, as necessary.

Public Access

- o Minimize noise and dust emissions along Northern Avenue to avoid disruption of pedestrian activity in the area.
- o Massport will provide appropriate signage for the circulation areas.

Utilities

- o Coordination between Massport, FMR Properties, the designated contractor, and appropriate utility agencies and companies to schedule construction activities to minimize or avoid disruptions of service in the area.

Comments on the Draft EIR were received from the following offices or individuals:

1. Office of Coastal Zone Management
2. Division of Environmental Quality Engineering (DEQE), Northeast Region
3. DEQE, Division of Air Quality Control
4. Metropolitan Area Planning Council
5. Massachusetts Aeronautics Commission
6. The Boston Harbor Associates
7. Hale & Dorr, representing HBC Properties and the Athanas Family
8. Group of Supporting Letters Received From:
 - o Ernest A. Lucci, Massachusetts Department of Commerce and Development
 - o James L. Sullivan, Greater Boston Chamber of Commerce
 - o Robert E. Cumings, Greater Boston Convention and Tourist Bureau, Inc.
 - o Howard P. Foley, Massachusetts High Technology Council
 - o Jonathan Rotenberg, The Boston Computer Society
 - o David V. Harmon, Boston Harborfest '82
 - o Ferdinand Colloredo-Mansfeld, Cabot, Cabot & Forbes Co.
 - o Daniel Rose, Rose Associates, Inc.

The first seven letters are reproduced and responded to in detail. The last group of eight letters were supportive of the BOSCOM project and encouraged approval of the EIR. No response to these letters is required.



COASTAL ZONE
MANAGEMENT

The Commonwealth of Massachusetts
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, Massachusetts 02202

MEMORANDUM

RECEIVED

AUG 20 1982

OFFICE OF THE SECRETARY OF
ENVIRONMENTAL AFFAIRS

TO: MEPA UNIT
FROM: RICHARD DELANEY, DIRECTOR *RD*
SUBJECT: COMMONWEALTH PIER DEIR
DATE: AUGUST 19, 1982

We concur with the Secretary's statement regarding the adequacy of the Public Access selection of the DEIR for Commonwealth Pier 5. However, it is clear that a formal written agreement between Massport, CZM & perhaps the City of Boston is necessary to firmly commit Massport to developing and implementing public accessways along the perimeter of the pier. Direct ownership of the pier, and statements, however general and/or well meaning in nature in a DEIR or FEIR, do not firmly commit the Port Authority to allowing the public to use the site. The Coastal Zone Management Office has drawn up similar agreements elsewhere along the coast and would be happy to work with Massport in this endeavor.

The maritime dependency discussion in the DEIR does not clearly commit Massport to providing support for any maritime uses except luxury liners and the Bay State Provincetown Boat. The pier is located within a CZM-Designated Port Area and any proposed re-use plan should take advantage of the proximity to deep water channels. The DEIR states that Commonwealth Pier offers a superior location in the harbor for excursion boats. What about other boating activities, a marina for example? There is no explicit commitment from Massport to provide facilities for water taxis, although Massport has stated they would encourage such uses. To facilitate the growth of water transportation, support facilities (a terminal for example) must be provided on key parcels of land along the harbor. Given the amount and range of activities expected to be generated at Commonwealth Pier, it's location within a designated port, together with Massport's stated support for water transportation, a clear commitment to water based transportation should be detailed within the FEIR.

COMMENTS RECEIVED FROM:

Richard Delaney, Director
Office of Coastal Zone Management
Executive Office of Environmental Affairs
Commonwealth of Massachusetts

ISSUES AND RESPONSE

Public Access

In response to this and other comments on the Draft EIR, Massport has further developed its plans for public access to Commonwealth Pier and has included a firm commitment to that access plan in the Final EIR. Basic elements of this commitment include 1) relocation of the cruise ships to the east side of the Pier allowing primary public access along the more visible west apron, 2) a public destination area along the wider apron at the north end of the pier with public amenities such as sitting areas, and 3) improvement of the area between Commonwealth Pier and Fish Pier for better public viewing of maritime activities in that area. Please see the revised Public Access chapter, pages 133 to 140 of the Final EIR for details of this commitment.

Maritime Use

The revised chapter on Maritime Use (pages 119 to 128 of the Final EIR) provides a more specific discussion of maritime uses which will take advantage of the proximity to deep water channels. This chapter also describes the explicit actions Massport will take to encourage and support these uses. These actions include repairs to the substructure of the apron, new fender piles, refurbishing of the seldom-used east apron for cruise ship docking, expansion of the existing 300' berth on the west apron by up to 900' and allowance for some private vessel docking. A marina for small boats has been discussed, but is not considered compatible with the larger cruise and excursion boats, nor with the frequent water taxi service that might locate at Commonwealth Pier. These uses are seen to have greater potential benefit to a larger segment of the public than would a marina.

In addition to these actions, BOSCOM's design for the Pier structure includes not only a new cruise ship terminal with drop off and parking, but additional space in the Pier for support of excursion boats, water taxis, commuter boats, and so forth.

The Commonwealth of Massachusetts

Department of Environmental Quality Engineering

Metropolitan Boston Northeast Region

1000 Van Boston Street **RECEIVED**

AUG 12 1982

ANTHONY D. CORIESE, Sr.
Commissioner
727 5194

MEMORANDUM

TO: Secretary, EOTC

FROM: Michael J. Maher, Acting Section Chief, Met. Boston/
Northeast Region

DATE: August 11, 1982

SUBJECT: Commonwealth Pier Five, Draft Environmental Impact Report

We have reviewed the Draft Environmental Impact Report for the above cited project and feel that there are problems with respect to the air analysis that should be brought to your attention. These problems are noted below.

1. The traffic figures used in the air analysis representing the "background" traffic growth do not appear to include the possible traffic generated from the proposed EDIC's renovation of Building 114 at the Boston Army Base. If this is the case, then these figures should be adjusted to reflect the additional traffic.
2. The nomographic version of the Caline-3 line source model was used to analyze the areas roadways in terms of added traffic and related air quality impacts. The nomographic analysis as used in this case is not a satisfactory methodology. DEQE discussed the use of the nomographic method in this particular case with EPA and they are in agreement. Had DEQE been consulted as to which methodology was acceptable, we would have suggested either the EPA, Volume 9 guidelines or the computerized version of Caline-3 adjusted to account for queuing at intersections.
3. The cold start factors as used in the emission factor derivation are not representative of "worst case" conditions. In this case the analysis should assume that a large percentage of the cars operating during the "pm peak" (worst case) are operating in the cold start phase. The cold start phase is defined as "a vehicle start after a long engine-off (or cold soak) period. This period of time is defined as four (4) hours or more for non-catalytic-equipped vehicles and as one (1) hour or more for catalytic-equipped vehicles, the cold-transient mode exists for the first 505 seconds of engine operation after a cold start."

4. The background values used in the analysis are too low and should be adjusted to represent urban conditions. Suggested representative urban "background" values are 4-5 ppm for the one hour base case and 2-3 ppm for the eight hour base case. Adjustments for future case values should reflect changes in traffic and emissions over time, but should in no case be less than 1 ppm for the one or eight hour case.
5. The emission factors as presented in the analysis seem rather high; further information on their derivation should be provided.
6. A receptor distance of 50-250 ft. is unacceptable in this area given the proximity of housing and businesses within the immediate vicinity of this project.

If you should have further questions on the comments presented above please contact Heidi O'Brien (292-4623) of my staff.

HOB/efj

cc: Heidi O'Brien, DEQE/DAQC

COMMENTS RECEIVED FROM:

Michael J. Maher
Acting Section Chief
Metropolitan Boston - Northeast Region
Department of Environmental Quality Engineering
Commonwealth of Massachusetts

ISSUES AND RESPONSE

The letter lists a number of problems with the Air Quality Analysis completed according to the original scoping memo from MEPA. Meetings held with Mr. Maher's staff before and after this letter was issued resulted in a new air quality analysis being completed for the Final EIR. The methodology employed was closely coordinated with DEQE and is fully described in the new Air Quality chapter, pages 97 to 112 and in the Technical Appendices on Air Quality.

Response to the six issues raised in relation to the Draft EIR analysis is included here in the same order in which they were presented in the letter from DEQE.

1. Traffic Generated by EDIC (Economic Development and Industrial Commissions)

Background traffic for 1987 was based upon a development scenario for the area. Preparation of this scenario was based upon personal contact with all major land owners in the area, BRA planners, other pertinent agencies, and interested citizen review groups. Interviews with Paul Horn and Dan Fishbein at EDIC suggested that a number of plans for job intensive projects were being considered, including a possible relocation of the garment district. At the time, the relocation of the garment district did not seem likely to be completed by the study year of 1987. (It should be noted that in the Spring of 1982, an ENF was filed for the EDIC garment workers relocation and a full traffic analysis will be prepared as part of that EIR.) On February 8, 1982, before proceeding with any traffic forecasting, the EIR team met with staff of the MEPA office to review, area by area, the assumptions to be included in the base traffic for 1987. These are the assumptions used in both the Draft and Final EIR's.

2. Nomographic Analysis

An agreement has been reached between Massport, MEPA and DEQE/DAQC to conduct additional air quality analyses beyond that required in the July 21, 1981 Determination of the Secretary of Environmental Affairs. The analysis is summarized in the revised Air Quality section and includes a detailed intersection analysis rather than the more general nomographic analysis referred to here and used in the Draft EIR. Three intersections (Northern Avenue/Atlantic Avenue, Congress Street/Atlantic Avenue, and D Street/West Broadway) were approved by MEPA and DEQE as representing worst case conditions for this new Final EIR Air Quality Analysis.

3. Cold Start Factors

Discussions with DEQE and EPA Region 1 indicate that a cold start factor of 50 percent for the afternoon peak hour is a reasonable worst case assumption. This figure is taken from a Federal Highway Administration (FHWA) publication entitled "Fundamentals of Air Quality". The 50 percent cold start factor was used in estimating peak hour CO concentrations for the more detailed intersection analysis completed for the Final EIR. Also with the concurrence of DEQE and EPA, national average values for motor vehicle hot and cold starts were used for the average 8-hour condition.

4. Background Values

Background CO values used in the Draft EIR analysis were 3.0 parts per million (ppm) for the peak one-hour condition and 1.5 ppm for the 8-hour average condition. Values used for other air quality studies in the South Boston area have been somewhat higher--5.0 ppm for the one-hour condition and 3.0 ppm for the 8-hour average condition. Using the higher values of 5.0 and 3.0 ppm, the Nomograph procedure showed no violations at any of the sensitive receptors studied. Further, the additional intersection analyses completed for the Final EIR use these higher background values as requested by DEQE/DAQC.

5. Derivation of Emission Factors

Detailed calculations regarding the air quality analysis were summarized in a document entitled Draft Environmental Impact Report - Technical Data Report - Commonwealth Pier Five Redevelopment.

6. Receptor Distance

The Caline 3 nomograph procedure requires that sensitive receptors be no closer than 15 meters (49 feet) and no further than 75 meters (246 feet) from the line source being analyzed. When receptor distances were above or below this range, either the 15 meter or 75 meter distance was assumed. Under the additional intersection analysis completed for the Final EIR, DEQE/DAQC approved all sensitive receptor locations prior to the analysis. The closest possible sensitive receptors were identified immediately adjacent to the three intersections studied.



The Commonwealth of Massachusetts

Executive Office of Environmental Affairs

Department of Environmental Quality Engineering

Division of Air Quality Control

ONE Winter Street, Boston 02108

ANTHONY D. CORTESE, Sc. D.
Commissioner

August 12, 1982

RECEIVED

AUG 12 1982

Mr. Samuel Mygatt, Director
MEPA
100 Cambridge Street 20th Floor
Boston, MA 02202

Dear Mr. Mygatt:

At the August 6, 1982 meeting relative to the Commonwealth Pier air analysis, it was decided by those present that an additional air analysis of three intersections in the area (West Broadway and D Street, Northern Ave and Atlantic Ave., and Congress St. and Atlantic Ave.) should be completed as part of the final EIR using a more detailed and appropriate approach. At question during the meeting was the issue of whether or not these intersections are indeed representative of worst-case conditions in terms of possible traffic/air quality related project impacts and thereby indicate the need, if any, for mitigating measures in this area.

DEQF agrees with the MEPA decision that further intersection analysis using an accepted methodology is necessary. We will concur with the analyses of these three intersections, if MEPA determines, based on its review of the traffic data, that these intersections are appropriate for identifying possible worst-case project related air quality/traffic problems in the project area.

Further, we look forward to meeting with the project proponent and consultant in the near future to discuss the technical and policy details of the analysis, once final approval on the intersections to be analyzed has been given by MEPA.

If you should have further questions on this, please give me or Heidi O'Brien of my staff a call.

Very truly yours

Barbara A. Kwetz

Barbara A. Kwetz
Planning Branch Chief

BAK/ch
cc: Heidi O'Brien, DAQC

COMMENTS RECEIVED FROM:

Barbara A. Kwetz
Planning Branch Chief
Division of Air Quality Control
Department of Environmental Quality Engineering
Commonwealth of Massachusetts

ISSUES AND RESPONSE

Air Quality Analysis of Three Intersections

The Certificate of the Secretary on the Draft EIR states that MEPA approves of the intersections selected for the more detailed air quality analysis which was completed for the Final EIR. Therefore, the three intersections (West Broadway and D Street, Northern Avenue and Atlantic Avenue, and Congress Street and Atlantic Avenue) were confirmed by both DEQE and MEPA as appropriate for identifying possible worst-case air quality/traffic problems, as requested by Ms. Kwetz's letter.

Meetings with DEQE

As requested, a meeting was held on August 30, 1982, with DEQE staff to agree on the technical and policy details of the air analysis. In addition, close contact by phone was maintained with DEQE staff and EPA Region I as the analysis proceeded.



METROPOLITAN AREA
PLANNING COUNCIL

110 TREMONT ST
BOSTON, MA 02108
Tel (617) 451-2770

RECEIVED

AUG 16 1982

OFFICE OF THE SECRETARY
ENVIRONMENTAL AFFAIRS

August 13, 1982

The Honorable John A. Bewick
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, MA 02202

Attention: MEPA Unit

RE: Commonwealth Pier Five Redevelopment (MAPC #LIR-0-1-1-1,
received July 12, 1982) EOE #4133

Dear Secretary Bewick:

In accordance with the provisions of Chapter 30, Section 62 of the Massachusetts General Laws, the Metropolitan Area Planning Council has reviewed the above-referenced draft environmental impact report.

The proposed actions include the development of a high technology trade and exhibition area with a hotel and associated uses on the site of the present Commonwealth Pier Five. These uses are to be developed by a private party (FHR Properties, Inc.) under long-term lease with MassPort and result in maintenance of deteriorating portions of the pier structure and continued maritime use of the pier.

The Council enthusiastically endorses the development concept as put forth in the draft environmental impact report as a valuable economic asset to the region. In almost every respect, the plan embodies the best principles of reuse of existing resources, prevention of deterioration through adaptive reuse and economic use of existing urban facilities -- all principles of the Council's regional development policies. The draft environmental impact report appears to have satisfactorily addressed previously raised concerns regarding traffic congestion and sewer capacity and the proposed mitigating measures appear to have resolved any serious adverse impacts.

In particular, the Council would like to point out that, from a regional perspective, the developed premise of the pier -- i.e., as a high technology trade center, is highly desirable, due to the character of the regional economy and especially to the absence of other competing developments. Thus, the regional economic base is enhanced with no danger of disinvestment elsewhere.

August 13, 1982

There are two issues we would like to raise for the final EIR. One concern, echoed by the City of Boston, relates to the character of assurances of public access around the new development. Public access to waterfront areas is an important principle of development in this unique resource area and the language of this section should be strengthened. The second concern does not relate directly to the BOSCOM development itself, but to the pressure it might place on nearby uses, particularly the Fish Pier. In light of past questions over the continued use of this facility as a fish pier, a clear statement by MassPort regarding its future under the new economic climate of Commonwealth Pier Five redevelopment, and other developments in the area, would be helpful.

We appreciate the opportunity to comment on this draft environmental impact report and wish MassPort well in its development efforts.

Very truly yours,

Jonathan G. Truslow
Executive Director

cc: Eugenie Beal, Boston
Alfred Howard, BRA
David Davis, MassPort
Norman Faramelli, MassPort
Thomas Galvin, MassPort
Michael Oman, MAPC

COMMENTS REVIEWED FROM:

Jonathan G. Truslow
Executive Director
Metropolitan Area Planning Council (MAPC)

ISSUES AND RESPONSE

Assurance of Public Access

As stated in response to the CZM letter, work on the public access plan has proceeded since issuance of the Draft EIR. The revised Public Access chapter (pages 133 to 140) therefore includes a plan of the access areas, a more detailed physical description and a strong commitment by Massport to follow through on the promises made here. Basically, public access will be provided for along the western apron running the full length of the Pier, and along the wider northern apron which extends the full width of the pier. On the east apron, where cruise ships will dock and service vehicle access must be maintained for BOSCOM, public access will be more limited. Please see the Public Access chapter for a detailed description.

Effects on the Fish Pier

Over the last four years, Massport has carried out an extensive renovation of the Fish Pier and all the buildings on that site. Having spent nearly \$20 million on this renovation, Massport is in constant contact with fish industry representatives to assure needed services are provided to continue that use, and is actively marketing improved office space in the Pier buildings. In addition, developers of BOSCOM have been fully aware of the Fish Pier, its requirements, and the very long-term commitment by Massport to its continuing use for such purposes.

At full redevelopment, the Fish Pier will include:

160,000 sq. ft. fishing industry use
80,000 sq. ft. office
"No Name" Restaurant



The Commonwealth of Massachusetts
Aeronautics Commission

RECEIVED

AUG 3 1982

Boston - Logan Airport, Boston, 02128

OFFICE OF THE SECRETARY
OF ENVIRONMENTAL AFFAIRS
August 2, 1982

(617) 727-5350

Attn: MEPA Unit
Re: EOE #4133, Commonwealth Pier

John Bewick, Secretary
Executive Office of Environmental Affairs
100 Cambridge Street, Room 2000
Boston, MA 02202

Dear Secretary Bewick:

We are extremely concerned that the Draft EIR on this project appears to ignore two vitally important potential impacts of the proposal:

Noise

The project site is exposed to aircraft noise levels in excess of Ldn 75, which is extremely high. This will require extensive soundproofing to prevent unacceptable environmental impact upon the project's future occupants. The hotel may have to be so heavily soundproofed, to permit sleep, that construction would be impractical.

Transportation

The potential for impacting air transportation is ignored. Yet a tall structure at this location could seriously disrupt the airspace of Boston-Logan Airport by precluding use of the presently closed extensions to Runways 4L and 9 and preventing the establishment of improved instrument approach "minimums" on several runways (particularly Runway 27). Since such preclusion would involve the loss of potential ambient noise reduction, a tall structure would be doubly disruptive.

Possibly the most serious potential impact on air transportation stems from knowingly inserting a population into an incompatible noise environment. Those so impacted are certain to become "hostile neighbors" who will forever exert efforts to oppose vitally needed airport development and seek to restrict airport operations.

We trust that the renderings on pp. 23 and 30 supercede the notation on p. 3 of the ENF (p. 215 of the DEIR) showing: "2 stories".

We strongly urge reconsideration of this project, particularly the hotel, office and conference center portions. We also urge your office to find the Draft EIR inadequate for omitting assessment and mitigation of these impacts.

Sincerely,

Arnold R. Stymest

Arnold R. Stymest
Director of Aeronautics

ARS:ep

cc: Massport Members
EOTC
FAA

COMMENTS RECEIVED FROM:

Arnold R. Stymest
Director of Aeronautics
Aeronautics Commission
Commonwealth of Massachusetts

ISSUES AND RESPONSE

In response to these comments, two new chapters were added to the EIR--one for noise (pages 153 to 162), and the other for impacts on Airspace (pages 163 to 166). A full discussion of both noise and air transportation issues can be found there.

Noise

The latest aircraft noise data indicate that Commonwealth Pier is in the Ldn 70-75 noise contour and will certainly require careful noise attenuation treatment for development as a high technology center. National standards call for a noise attenuation of 30 decibels in the structure for many of the planned uses. The developers of BOSCOM are aware of this issue and have employed Bolt Beranek and Newman, Inc., recognized airport noise and acoustics consultants, as part of their design team. Plans for noise attenuation to handle the Ldn 70-75 average and the individual episodes which exceed that average are outlined in the noise chapter of this Final EIR.

Airspace Disruption

During planning for Commonwealth Pier redevelopment in 1980-1981, contact was made with the FAA to discuss any issues which might relate to airspace requirements at Logan International Airport. Information was received on permitting procedures in relation to heights of structures. This information was passed on to all potential developers. Although one preliminary development concept (Alternative 2 in the EIR) did envision a tower structure at the north end of the Pier, actual BOSCOM plans call for a considerably lower structure to be used as a hotel. Required FAA forms for a "Notice of Proposed Construction or Alteration" (Form No. 004-R001) have been filed with the FAA for review of the proposed BOSCOM structure. Plans and designs included in the Final EIR (Description of Alternatives, pages 33 to 52) represent a more fully developed design concept and do supercede designs shown in the Draft EIR (June 1982) and discussed in the ENF (May 1981). The relationship of Commonwealth Pier plans to uses of various runways at Logan International

Airport is discussed more fully in the Airspace Chapter of the Final EIR.

Noise Impact on Users

BOSCOM has made the decision to locate at Commonwealth Pier in full knowledge of airport use patterns. They have been operating a presentation room at the Pier since Spring 1982, and are fully aware of the noise impacts and need for noise attenuation in their design. The developers have hired recognized experts in the field to prepare such designs. They have weighed the options and made a business decision to locate at Commonwealth Pier. It is their determination that the advantages of this location, including proximity to the airport and downtown, outweigh the disadvantages of necessary noise attenuation measures. It should be noted, in addition, that aircraft noise has apparently not been a problem for substantial restaurant businesses which have operated in the area for many years.

from Sam Mygall



ROBERT M. CALDER, President
JOHN S. AMES, Vice President
LYDIA R. GOODHUE, Vice President
EDWIN P. TIFFANY, Treasurer
LORRAINE M. DOWNEY, Secretary

THOMAS ENNEN, Executive Director

August 27, 1982

RECEIVED P.O. Box 9042, Boston, MA 02114
Telephone (617) 426-5025

AUG 30 1982

OFFICE OF THE SECRETARY
DEPARTMENT OF ENVIRONMENTAL AFFAIRS

John A. Bewick, Secretary
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, MA 02114

ATTN: MEPA Unit
Commonwealth Pier
EOEA #4133

Dear Secretary Bewick:

I write to comment on the draft EIR for the above referenced project. While I'm aware that the deadline for submission of remarks has expired I hope that the following can be given at least informal consideration.

Public Access

The draft EIR fails to state, with any specificity, what the public access program for the Pier will be. The language used to describe the proponent's plans is ambiguous and is qualified by terms such as "necessary egress and public safety...". Debate over the meaning of these terms when applied to mixed use development at waterfront sites continues. The language in this section offers the proponents far too much latitude.

Sewerage

Future EIR scopes for projects which have sanitary discharge to collection systems which are relieved by combined sewer overflows should require the proponent to demonstrate that said discharges will not increase harbor pollution earlier through combined sewer overflows as a result of storms or as dry weather overflows. I suspect that this project may have the effect of increasing point source raw sewerage discharges to the harbor but without an analysis this cannot be confirmed. Since this issue was not raised in the original TBIA comment letter nor in the original scope the proponent should not be required to perform such a study. This information should be generated as it will allow the director of the Division of Water Pollution Control to make an informed judgement in his consideration of the Sewer Connection Permit.

Traffic

The data revealed in the EIR points toward a saturation effect in several intersections and on certain roadways as a result of this project in combination with others planned for the Dewey Sq. and South Boston Peninsula areas. A full evaluation, possibly a comprehensive traffic study of this area should begin quickly so that mitigation alternatives can be identified. Such a study would most likely be the responsibility of the City of Boston as it has indicated that the city is the prime beneficiary of the development surge in this area and would bear responsibility for managing the traffic. Your office would be performing a vital public service were it to take the lead in recommending such an effort.

I am curious about how sensitive the traffic studies which have been done are to the increase in air pollution due to the large queuing and "parked in progress" time that will be experienced during peaks and certainly during any irregularities in departure corridors. Roadways which relieve this area have their own rather serious problems and will without a doubt cause major backups into the system study.

With regard to traffic in general I am sorry that our work on public water transportation is not further along. This service may prove to be the measure which allows full development of this peninsula.

I thank you for this opportunity to comment on the draft EIR for Commonwealth Pier and am as always available at your convenience for further consultation.

Sincerely,

THE BOSTON HARBOR ASSOCIATES



Thomas Ennen
Executive Director

cc: Alice Jelin, Boscom Associates
David Davis, Massport
Ann Hershfang, THBA Board of Directors

COMMENTS RECEIVED FROM:

Thomas Ennen
Executive Director
The Boston Harbor Associates

ISSUES AND RESPONSE

Public Access

Responding to this and several other comments on the Draft EIR, as well as the Secretary's Certificate, Massport has further developed and committed itself to plans for public access. These plans are discussed in the Public Access chapter of the Final EIR (pages 133 to 140).

Sewerage

Massport has worked closely with the Boston Water and Sewer Commission to plan for and build utilities in this area which will benefit not only Commonwealth Pier, but the developments in other parts of the South Boston peninsula as well. Massport and BOSCOM will also work with the Division of Water Pollution Control to provide any required materials for approval of a Sewer Connection Permit.

Traffic

Massport has completed a full and detailed traffic analysis for the EIR and has committed itself to a number of mitigation measures. This traffic data, including a detailed traffic appendix, is now in the public record and available to any group which may initiate future traffic studies for the area.

Air Quality Analysis

The Final EIR includes a new and more detailed air quality analysis performed using the EPA Volume 9 guidelines. This methodology does account for growing and special congestion at peak periods as well as a broad range of traffic conditions.

Water Transportation

Future plans for water transportation in the Boston Harbor are of particular interest to Massport and BOSCOM developers. Plans for maritime uses at the Pier call for available docking space and support terminal office space for a potential future water taxi system. Massport looks forward to completion of TBHA work on such transportation.

RECEIVED

HALE AND DORR
COUNSELLORS AT LAW

A PARTNERSHIP INCLUDING PROFESSIONAL CORPORATION

60 STATE STREET
BOSTON, MASSACHUSETTS 02109

(617) 742-9100

August 9, 1982

OFFICE OF THE SECRETARY OF

ENVIRONMENTAL AFFAIRS

1000 PENNSYLVANIA AVENUE

WASHINGTON, D. C. 20540

(202) 393-6000

CABLE: HALE AND DORR

TELETYPE: HALE AND DORR

MEPA Unit
Executive Office of
Environmental Affairs
100 Cambridge Street
Boston, Massachusetts

Re: EOEA No. 4133 - Commonwealth Pier 5

Gentlemen:

Reference is made to the Draft Environmental Impact Report prepared for Commonwealth Pier 5 Redevelopment (EOEA No. 4133).

This office represents HBC Associates, the developer of Piers 1, 2 and 3 on Northern Avenue and, although we do not represent them, we have also been authorized to submit this letter on behalf of Anthony Athanas and other members of the Athanas family as the owners of Piers 1 through 4 on Northern Avenue.

Our review of the Commonwealth Pier 5 Draft EIR and other public documents at Massport indicates that the BOSCOM proposal is the alternative which the proponent is likely to implement. In comparison to the ENF, the BOSCOM plan shows major changes from the Preliminary Development Concept upon which the scope memorandum was based. The most significant change in the project advocated by BOSCOM is the introduction of a major hotel. The Preliminary Development concept proposes that 80,000 square feet of space be devoted to an accessory hotel of 100 rooms which would function as an accessory use to the exhibition and office space. The BOSCOM proposal now specifies 316,000 square feet of hotel space devoted to 500 rooms. By way of comparison, this exceeds the size of the new Marriott Hotel on Long Wharf by almost 25%. In addition, the proposed restaurant facilities are two and one-half times as large as the restaurant on Pier Four.

As you are aware, HBC is currently in the process of preparing an extremely extensive environmental impact report on its proposed mixed use development of Piers 1, 2 and 3. Included in that project is a proposed major hotel with accessory conference facilities and enclosed parking.

MEPA Unit
Page 2
August 9, 1982

The development of the BOSCOM hotel was not given the same kind of thorough analysis as is being required of the hotel for Piers 1, 2 and 3 in the scoping memorandum for that development. For instance, there is no discussion of visual impacts, wind tunnel studies, construction noise, dredging and filling and other factors.

The Draft EIR also reveals that the hotel will be served by a 700 car parking area across Northern Avenue. Our estimate is that this could result in an increase of the area to be studied by 50 percent of the size of Commonwealth Pier itself. Yet there is no discussion of any of the environmental impacts of such an expansion of the project such as visual impacts, pedestrian safety or vehicular or pedestrian circulation.

It would thus appear that the scope of the environmental review should be reassessed in terms of the BOSCOM proposal. In fact, because Commonwealth Pier 5 is owned by Massport, there will be significant economic impacts, many of which will be competitive with many existing and new hotels under consideration or under construction in the City of Boston. For instance, the proposed hotel on Commonwealth Pier 5 would enjoy the benefit of some of its parking facilities being owned by an agency of the Commonwealth, and tax exempt financing may be available through Massport. These and other factors contained in the public documents at Massport should be set forth and be available for public discussion as they are likely to enlarge the scope of the environmental report. By way of example, the agreement between Massport and FMR Properties indicates that a variety of proposals may be presented to Massport and implemented by the developer. Thus the EIR perhaps should discuss environmental impacts in terms of guidelines and parameters as future proposals may have a marked impact on growth and community housing, neither of which were identified as having a potential impact in the ENF.

The hotel and ancillary uses change the fundamentally sound aspects of the BOSCOM proposal and call into question the long range master planning for the South Boston waterfront which has been proceeding over the last several years with participation by all of the major land owners in the Ft. Point Channel - Northern Avenue area under the leadership of the Boston Redevelopment Authority. The goals of this planning effort have been to create harmonious and integrated uses and designs for this portion of the City.

MEPA Unit
Page 3
August 9, 1982

The scope of the environmental review is particularly important for this project as Massport property is exempt from the constraints of the Boston Zoning Code and Boston Redevelopment Authority design review. Thus the EIR constitutes the sole opportunity for input from the public and public agencies with respect to proposed land uses and planning.

We wish to emphasize that the comments expressed in this letter should not be construed as opposition to the Pier 5 redevelopment. The Athanas family and HBC Associates are in favor of the trademart aspects of the BOSCOM proposal and feel it is in the public interest and consistent with Massport's charter. However, the related hotel use may be environmentally unsound and in our client's view is not consistent with Massport's purposes and should be studied in detail as part of the environmental review.

Thank you very much for the opportunity to present these comments on behalf of our client.

Sincerely yours,

Robert Tuchmann

RT:lh

cc: John D. Hamilton, Jr., Esq.
Mr. Richard L. Friedman
Ms. Carmine Cerone
Mr. Anthony Athanas
John Pike, Esq.
Mr. Thomas Horan

COMMENTS RECEIVED FROM:

Robert Tuchmann
Hale & Dorr
Representing: HBC Associates, and on behalf of Anthony
Athanas and other members of the Athanas family

ISSUES AND RESPONSE

The Certificate on the Draft EIR issued by the Secretary of Environmental Affairs reflects a number of the comments presented in this letter. Consequently, the "Description of Alternatives" Chapter (pages 33 to 52) has been substantially rewritten and new graphic materials added in order to fully respond to the issues raised. A full discussion of the operations of BOSCOM is included there along with a demonstration of the integral nature of hotel and restaurant facilities. Specific response to other issues raised in the HBC Properties letter is provided here.

Relationship to ENF

As noted in the Draft EIR, Page 24, Massport filed the Environmental Notification Form in May 1981. The ENF was filed early in the redevelopment process as recommended in the MEPA Regulations section 10.04(7) and pursuant to accepted national standard for appropriate timing of environmental review.

The ENF described a hypothetical high intensity mixed-use program for the Pier based on Massport's feasibility studies. This hypothetical program has been carried through the analysis and is discussed as the Preliminary Development Concept, Alternative 2 of the EIR. It was felt that initiating environmental studies of this option, with an intensive peak hour office use, would at least represent a statement of worst case conditions in many impact categories. It is clear from the statements in the ENF that a developer was yet to be chosen, so that analysis work would focus on the Preliminary Development Concept until the developer was chosen, and then would expand to cover the specific chosen development option as well.

In January, 1982, Massport selected FMR Properties, Inc., developers of BOSCOM, as developer for Commonwealth Pier after an extensive international competition. On February 8, 1982, the proponent's environmental team met with MEPA staff to review the specific components of the BOSCOM alternative, to agree on alternatives for analysis in the Draft EIR and to discuss base case development assumptions for the surrounding area in South Boston.

Comparison to Piers 1, 2, 3 Environmental Analysis

In contrast to the Piers 1, 2, 3 development proposal, BOSCOM is primarily a rehabilitation and expansion of an existing structure which presently covers 90% of its site.

The EIR prepared by Massport fully responds to the scope required by MEPA in its memorandum of June 22, 1981. Although a visual impact analysis was not specifically required, the chapter on "Description of Alternatives" includes a full presentation of designs for BOSCOM (expanded for the Final EIR), including views of the new hotel structure. In addition, the chapter on historic impacts deals with visual issues in relation to the historic character of the Headhouse and sheds. Wind tunnel studies were not required by MEPA. The hotel structure rises only eight stories above the existing sheds and no major new open space areas are proposed. Construction effects are discussed in the EIR as required by the MEPA scope, and in the area of noise impact, new construction activities which replace the central shed will be shielded by the existing east and west shed structures. As stated in the ENF, and as shown in the BOSCOM designs, no dredging or filling are required for this redevelopment project. Economic impact analysis of the Commonwealth Pier Redevelopment or the project proposed, as with the scope for Piers 1, 2, and 3, is outside the scope of the MEPA process.

Activities on Commonwealth Flats

There are no plans to build new parking areas on Commonwealth Flats to serve BOSCOM. The 700 spaces referred to in the Draft EIR are existing spaces in a currently operated lot. Therefore, this does not constitute an expansion of the project and will have no visual effect. Consideration of pedestrian safety and pedestrian vehicular circulation assumed the continued existence and use of these spaces. Any new proposals for other uses on Commonwealth Flats would be subject to the full environmental review procedures.

Use of the EIR as Guidelines and Parameters for Development

Any future proposals made by the Developer to Massport for Commonwealth Pier will be subject to the commitments made in all impact categories of the Final EIR. In this way, commitments in areas such as public access and maritime use will serve as parameters for any further design development on the site. In accordance with MEPA regulations (Section 10.16 Project Changes), project changes would be subject to a review of their environmental effects by the Secretary of Environmental Affairs under MEPA.

Coordination with Boston Redevelopment Authority and Plans for the Area

From the inception of the efforts to redevelop Commonwealth Pier and regularly during the environmental analysis effort, Massport has maintained contact with planners at the Boston Redevelopment Authority as well as other city agencies, including the Water and Sewer Commission, Conservation Commission and Landmarks Commission. BRA staff were consulted on all assumptions about future development scenarios for the area, and were provided with a description of the BOSCOM use program. Trade mart, exhibition, hotel and restaurant uses have been integral to the plan since its inception. Neither the developer or Massport has had any indication from the appropriate planning authorities that BOSCOM was in any way incompatible with long-range plans for the South Boston waterfront.

Public Review

Review of Commonwealth Pier proposals by the public and private agencies has been extensive during the environmental review and will continue through the permitting process. This process will involve the Boston Conservation Commission, Boston Water and Sewer Commission, the Metropolitan District Commission, DEOF, Waterways, DEQE Air Quality, DEQE Water Pollution Control, and the Office of Coastal Zone Management, among others. A building permit will be secured from the appropriate agencies. In addition, the application for a certified rehabilitation which will involve the Massachusetts Historical Commission and Boston Landmarks Commission, as well as the federal Office of Cultural Programs in the National Park Service, which provides such certification after detailed review.

DISTRIBUTION OF THE
DRAFT EIR

The Draft Environmental Impact Report was distributed to the following Federal, state and city agencies, civic organizations and elected representatives of the South Boston community. This list includes those entities that MEPA regulations require be part of the legal review of this document, as well as others who have commented on the project since the initial filing of the Environmental Impact Form in June 1981.

Distribution of the Draft EIR will include:

State Agencies

Secretary John A. Bewick
Executive Office of Environmental Affairs
Leverett Saltonstall Building - 20th Floor
100 Cambridge Street
Boston, MA 02202
Attn: MEPA Unit

Secretary James Carlin
Executive Office of Transportation and Construction
One Ashburton Place, Room 1610
Boston, MA 02108

Honorable Francis X. Bellotti
Attorney General
One Ashburton Place
Boston, MA 02108

Secretary Byron Matthews
Executive Office of Communities and Development
100 Cambridge Street, 14th Floor
Boston, MA 02202

State Clearinghouse
One Ashburton Place
Boston, MA 02108

Mr. Richard Delaney
Ms. Marjorie O'Malley
Office of Coastal Zone Management
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, MA 02202

Mr. Harry Dodson, Office of Planning
Department of Environmental Management
100 Cambridge Street, Room 1903
Boston, MA 02202

Department of Environmental Quality Engineering
One Winter Street
Boston, MA 02108

Mr. John Hannon, Chief Engineer
Division of Waterways
Department of Environmental Quality Engineering
One Winter Street
Boston, MA 02108

Mr. Thomas McMahon, Director
Mr. Richard Tomczyk
Division of Water Pollution Control
Department of Environmental Quality Engineering
One Winter Street
Boston, MA 02108

Mr. Kenneth Hagg, Director
Ms. Heidi O'Brien
Department of Environmental Quality Engineering
Division of Air Quality Control
One Winter Street
Boston, MA 02108

Mr. William St. Hillaire
Department of Environmental Quality Engineering
Northeast Regional Office
Tewksbury Hospital
Tewksbury, MA 01876

Ms. Patricia Weslowski, Executive Director
Mr. Joseph Orfant, Review Director
Ms. Valerie Talmadge, State Archaeologist
Mass. Historical Commission
294 Washington Street
Boston, MA 02108

Mr. Robert Horigan
Mass. Department of Public Works
Environmental Section
100 Nashua Street
Boston, MA 02114

Mr. Jonathan Truslow, Executive Director
Metropolitan Area Planning Council
110 Tremont Street
Boston, MA 02108

Mr. Richard A. Nylen, Commissioner
Ms. Julia O'Brien
Metropolitan District Commission
20 Somerset Street
Boston, MA 02018
Attn: Environmental Planning Office

Federal Agencies

Mr. Robert DeSista
Regulatory Branch
U.S. Army Corps of Engineers
424 Trapelo Road
Waltham, MA 02254

Captain Stephen J. Masse, Officer in Charge
Marine Inspection
United States Coast Guard
447 Commercial Street
Boston, MA 02109

City Agencies

Honorable Kevin White, Mayor
1 City Hall Plaza
Boston, MA 02201

Ms. Lorraine Downey
Boston Conservation Commission
One City Hall Plaza
Boston, MA 02201

Mr. Robert Ryan, Executive Director
Mr. Alfred Howard
Mr. Richard Mertens
Ms. Linda Bourque
Boston Redevelopment Authority
One City Hall Plaza
Boston, MA 02201

James L. Sullivan, President
Boston Chamber of Commerce
125 High Street
Boston, MA 02110

South Boston Public Library
646 E. Broadway
South Boston, MA 02127
Attn: Branch Librarian

Commissioner Joseph Casazza
City of Boston Public Works Department
1 City Hall Plaza
Boston, MA 02201

Community Organizations

Mr. James Sullivan, Executive Director
South Boston CDC
660 Summer Street
South Boston, MA 02210

Mr. Thomas Butler
South Boston Citizen's Association
P.O. Box 74
South Boston, MA 02127

Mr. Thomas Burke
South Boston Residents Group
493 E. Broadway
South Boston, MA 02127

Mr. Thomas Ennen, Executive Director
The Boston Harbor Associates
P.O. Box 9042
Boston, MA

Elected Officials

Honorable John J. Moakley
Room 1900-C
JFK Federal Building
Boston, MA 02203

Honorable William Bulger
Massachusetts State Senate
Massachusetts State House
Boston, MA 02133

Honorable Michael Flaherty
Massachusetts House of Representatives
Massachusetts State House
Boston, MA 02133

Mr. Raymond Flynn
Boston City Council
1 City Hall Plaza
Boston, MA 02210

APPENDIX A
COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENVIRONMENTAL AFFAIRS

ENVIRONMENTAL NOTIFICATION FORM

I. SUMMARY

A. Project Identification

1. Project Name COMMONWEALTH PIER FIVE - BOSTON

MIXED USE DEVELOPMENT

2. Project Proponent Massachusetts Port Authority

Address 99 High Street

Boston, Massachusetts 02110

Do not write in
this space

B. Project Description: (City/Town(s)) Boston

1. Location within city/town or street address 164 Northern Avenue, Boston, Mass.

2. Est. Commencement Date: 1982/1983

Est. Completion Date: 1984/1985

Approx. Cost \$ 100,000,000.

Current Status of Project Design: 5 % Complete

C. Narrative Summary of Project

Describe project and give a description of the general project boundaries and the present use of the project area. (If necessary, use back of this page to complete summary).

Commonwealth Pier is located on the Boston Harbor at Commonwealth Flats. It sits on land filled in 1907 and fully developed with a Pier structure of approximately ten acres.

Commonwealth Pier was completed in 1912 and consists of three two-story parallel shed structures, joined together, 1,060 feet long and 380 feet wide, and a four-story headhouse. The headhouse faces Northern Avenue and has access both from Northern Avenue and at the second level from the Viaduct which connects to Summer Street. Presently the structure contains 850,000 square feet which is largely vacant with the exception of limited warehousing, office, exhibition and intermittent cruise ship docking uses.

With development of the Pier for a mixture of new uses 500,000 to 650,000 square feet could be added within the existing shed structure creating three or four levels throughout.

Anticipated new uses include: Exhibition (possible trade mart and display facilities), Conference Facility, Office, Hotel, Restaurants, a Cruise Ship Terminal and Parking.

Massport is currently requesting letters of interest from potential developers who will propose on the rehabilitation of Commonwealth Pier. Consequently, the precise mix of uses has not yet been established.

The Massachusetts Port Authority will retain ownership of the Pier and will provide a long term lease to a private developer who will redevelop the Pier under a detailed agreement with the Authority.
(see next page)

Copies of this may be obtained from:

Name: Thomas Galvin

Firm/Agency: Massachusetts Port Authority

Address: 99 High Street, Boston, MA 02110

Phone No. 482-2930

Use This Page to Complete Narrative, if necessary.

For purposes of the environmental review a high intensity mixed use program for reuse of the Pier has been assumed. The uses and approximate square footages include:

o Exhibition - trade mart, display facilities	340,000 sq. ft.
o Conference Facility	30,000
o Office	340,000
o Hotel (100 rooms)	80,000
o Restaurant	20,000
o Cruise Facility (continuing cruise ships and ferry dockings)	20,000
o Parking (1000 spaces)	510,000
	1,340,000 sq. ft.

This project is one which is categorically included and therefore automatically requires preparation of an Environmental Impact Report : YES NO X

D. Screening (Complete Sections II and III first, before completing this section.)

1. Check those areas which would be important to examine in the event that an EIR is required for this project. This information is important so that significant areas of concern can be identified as early as possible, in order to expedite analysis and review.

	Construc- tion Impacts	Long Term Impacts		Construc- tion Impacts	Long Term Impacts
Open Space & Recreation	<u>X</u>	<u>X</u>	Mineral Resources	<u> </u>	<u> </u>
Historical	<u> </u>	<u> </u>	Energy Use	<u> </u>	<u>X</u>
Archaeological	<u> </u>	<u> </u>	Water Supply & Use	<u> </u>	<u> </u>
Fisheries & Wildlife	<u> </u>	<u> </u>	Water Pollution	<u> </u>	<u> </u>
Vegetation, Trees	<u> </u>	<u> </u>	Air Pollution	<u>X</u>	<u>X</u>
Other Biological Systems	<u> </u>	<u> </u>	Noise	<u>X</u>	<u>X</u>
Inland Wetlands	<u> </u>	<u> </u>	Traffic	<u>X</u>	<u>X</u>
Coastal Wetlands or Beaches	<u> </u>	<u> </u>	Solid Waste	<u>X</u>	<u> </u>
Flood Hazard Areas	<u> </u>	<u> </u>	Aesthetics	<u> </u>	<u>X</u>
Chemicals, Hazardous Substances	<u> </u>	<u> </u>	Wind and Shadow	<u> </u>	<u> </u>
High Risk Operations	<u> </u>	<u> </u>	Growth Impacts	<u> </u>	<u> </u>
Geologically Unstable Areas	<u> </u>	<u> </u>	Community/Housing and the Built Environment	<u> </u>	<u> </u>
Agricultural Land	<u> </u>	<u> </u>		<u> </u>	<u> </u>
Other (Specify)	<u> </u>	<u> </u>		<u> </u>	<u> </u>

2. List the alternatives which you would consider to be feasible in the event an EIR is required.

Reasonable alternatives for review would include modifications to the mix of uses with perhaps a larger hotel and a reduction in office and exhibition uses.

Location of Commonwealth Pier



- E. Has this project been filed with ECEA before? Yes _____ No X
If Yes, ECEA No. _____ ECEA Action? _____
- F. Does this project fall under the jurisdiction of NEPA? Yes _____ No X
If Yes, which Federal Agency? _____ NEPA Status? _____
- G. List the State or Federal agencies from which permits will be sought:
- | Agency Name | Type of Permit |
|---|---|
| U.S. Corps of Engineers | Permit for rehabilitation work within navigable waterways |
| Massachusetts Division of Water Pollution Control | Sewer Expansion Permit |
| Mass. Division of Water Ways | Waterways License (status request) |
- H. Will an Order of Conditions be required under the provisions of the Wetlands Protection Act (Chap. 131, Section 40)?
Yes X No _____
DEGE File No., if applicable: _____
- I. List the agencies from which the proponent will seek financial assistance for this project:
- | Agency Name | Funding Amount |
|-------------|----------------|
|-------------|----------------|

II. PROJECT DESCRIPTION

- A. Include an original 8 1/4 x 11 inch or larger section of the most recent U.S.G.S. 1:24,000 scale topographic map with the project area location and boundaries clearly shown. Include multiple maps if necessary for large projects. Include other maps, diagrams or aerial photos if the project cannot be clearly shown at U.S.G.S. scale. If available, attach a plan sketch of the proposed project.
- B. State total area of project: 10 acres
Estimate the number of acres (to the nearest 1/10 acre) directly affected that are currently:
- | | |
|--|------------------------------------|
| 1. Developed <u>10</u> acres | 4. Floodplain _____ acres |
| 2. Open Space/Woodlands/Recreation _____ acres | 5. Coastal Area _____ acres |
| 3. Wetlands _____ acres | 6. Productive Resources |
| | Agriculture _____ acres |
| | Forestry _____ acres |
| | Mineral Products _____ acres |
- C. Provide the following dimensions, if applicable:
- Length ~~XXXXXX~~ 1,060 ft. long Number of Housing Units 0 Number of Stories 2
380 ft. wide
- | | Existing | Immediate Increase Due to Project |
|---|-------------------|-----------------------------------|
| Number of Parking Spaces | <u>1,500</u> | <u>500</u> |
| Vehicle Trips to Project Site PER AVERAGE DAY | <u>4,500</u> | <u>1,000</u> |
| Estimated Vehicle Trips past project site | <u>17,100</u> ADT | <u>1,000</u> |
- D. If the proposed project will require any permit for access to local or state highways, please attach a sketch showing the location of the proposed driveway(s) in relation to the highway and to the general development plan; identifying all local and state highways abutting the development ; and indicating the number of lanes, pavement width, median strips and adjacent driveways on each abutting highway, and indicate the

11. ASSESSMENT OF POTENTIAL ADVERSE ENVIRONMENTAL IMPACTS

Instructions: Consider direct and indirect adverse impacts, including those arising from general construction and operations. For every answer explain why significant adverse impact is considered likely or unlikely to result.

Also, state the source of information or other basis for the answers supplied. If the source of the information, in part or in full, is not listed in the ENF, the preparing officer will be assumed to be the source of the information. Such environmental information should be acquired at least in part by field inspection.

A. Open Space and Recreation

1. Might the project affect the condition, use or access to any open space and/or recreation area?

Yes _____ No X

Explanation and Source:

There is no recreational use on the site of the Pier or surrounding properties. Public use or access to Commonwealth Pier is currently limited to attendees at exhibitions or passengers of cruise ships and their friends and family. Similar uses are anticipated to continue with Pier development.

B. Historic Resources

1. Might any site or structure of historic significance be affected by the project? Yes X No _____

Explanation and Source:

The Pier was voluntarily placed on the National Register of Historic Places by Massport in 1979. Since that time, review sessions have been held with the Massachusetts Historical Commission to keep them advised of reuse plans. In addition, Massport has met with the Federal Heritage Conservation and Recreation Service office in Philadelphia to review design concepts and plans.

2. Might any archaeological site be affected by the project? Yes _____ No X

Explanation and Source:

Extensive subsurface and underwater investigations conducted recently (December-January 1980-1981; by Hayden, Harding & Buchanan, Inc.) have not revealed any material of archaeological interest.

C. Ecological Effects

1. Might the project significantly affect fisheries or wildlife, especially any rare or endangered species?

Yes _____ No X

Explanation and Source:

The Pier is located within a developed urban commercial/industrial Port area with no remaining vegetation. No construction in the water is anticipated.

2. Might the project significantly affect vegetation, especially any rare or endangered species of plant?

Yes _____ No X

(Estimate approximate number of mature trees to be removed: _____)

Explanation and Source:

see explanation at C.1.

3. Might the project alter or affect flood hazard areas, inland or coastal wetlands (e.g., estuaries, marshes, sand dunes and beaches, ponds, streams, rivers, fish runs, or shellfish beds)? Yes _____ No X

Explanation and Source:

see explanation at C.1.

4. Might the project affect shoreline erosion or accretion at the project site, downstream or in nearby coastal areas? Yes _____ No X

Explanation and Source:

see explanation at C.1.

The existing quay wall is in good condition.

(source: Hayden, Harding & Buchanan, Inc., 1981 Report)

5. Might the project involve other geologically unstable areas? Yes _____ No X

Explanation and Source:

The Pier sits on filled land, completed in 1907, and is isolated from surrounding developed areas.

D. Hazardous Substances

1. Might the project involve the use, transportation, storage, release, or disposal of potentially hazardous substances?

Yes _____ No X

Explanation and Source:

The project is anticipated to be a commercial mixed use development in which potentially hazardous materials will not be used other than normal storage of gasoline in parked automobiles, as is presently the case.

E. Resource Conservation and Use

1. Might the project affect or eliminate land suitable for agricultural or forestry production?

Yes _____ No X

(Describe any present agricultural land use and farm units affected.)

Explanation and Source:

see explanation at C.1.

2. Might the project directly affect the potential use or extraction of mineral or energy resources (e.g., oil, coal, sand & gravel, ores)? Yes _____ No
- X

Explanation and Source:

see explanation at C.1.

3. Might the operation of the project result in any increased consumption of energy? Yes
- X
- No _____

Explanation and Source:

(If applicable, describe plans for conserving energy resources.)

An attempt will be made to recover heat generated by lights, people and solar and to transfer that heat to portions of the development requiring heat. A full, new insulated roof will be provided, and construction will meet all codes including the Massachusetts Energy Code requirements.

F. Water Quality and Quantity

1. Might the project result in significant changes in drainage patterns? Yes _____ No
- X

Explanation and Source:

The site is fully developed and non-permeable. No changes in the flow of drainage into the stormwater system are anticipated.

(source: Consentini Associates, 1981 Reuse Analysis)

2. Might the project result in the introduction of pollutants into any of the following:

(a) Marine Waters	Yes _____	No <u>X</u>
(b) Surface Fresh Water Body	Yes _____	No <u>X</u>
(c) Ground Water	Yes _____	No <u>X</u>

Explain types and quantities of pollutants.

Wastewater from the development will be discharged through public sewer treatment facilities.

3. Will the project generate sanitary sewage? Yes X No _____

If Yes, Quantity: 130,000 gallons per day

Disposal by: (a) Onsite septic systems Yes _____ No X
 (b) Public sewerage systems Yes X No _____
 (c) Other means (describe) _____

(source: Cosentini Associates, 1981 Reuse Analysis)

4. Might the project result in an increase in paved or impervious surface over an aquifer recognized as an important present or future source of water supply? Yes _____ No X

Explanation and Source:

The site is 100% impervious surface at present.

5. Is the project in the watershed of any surface water body used as a drinking water supply?

Yes _____ No X

Are there any public or private drinking water wells within a 1/2-mile radius of the proposed project?

Yes _____ No X

Explanation and Source:

see explanation at C.1.

6. Might the operation of the project result in any increased consumption of water? Yes X No _____

Approximate consumption 145,000 gallons per day. Likely water source(s) City of Boston Water Supply System.

Explanation and Source:

(source: Cosentini Associates, 1981 Reuse Analysis)

7. Does the project involve any dredging? Yes _____ No X

If Yes, indicate:

Quantity of material to be dredged _____

Quality of material to be dredged _____

Proposed method of dredging _____

Proposed disposal sites _____

Proposed season of year for dredging _____

Explanation and Source:

No construction in the water beyond the existing fully developed pier site is anticipated.

Air Quality

1. Will the project affect the air quality in the project area or the immediately adjacent area? Yes _____ No _____

Explain type and source of any pollution emission from the project site. _____

Stationary sources (from HVAC equipment) and ambient sources from vehicular traffic.

2. Are there any sensitive receptors (e.g., hospitals, schools, residential areas) which would be affected by any pollution emissions caused by the project, including construction dust? Yes _____ No X

Explanation and Source:

Surrounding area consists of related port industrial and office uses, parking lots and some restaurants.

3. Will access to the project area be primarily by automobile? Yes X No _____

Describe any special provisions now planned for pedestrian access, carpooling, buses and other mass transit.

Service is presently provided to the Pier along Northern Avenue by the MBTA. In addition, Massport runs a shuttle for employees of the area to encourage the use of remote parking and avoid lunchtime use of cars. With new development a shuttle to downtown and to South Station are anticipated. A ferry across the Harbor to the airport is to be considered.

Noise

1. Might the project result in the generation of noise? Yes X No _____

Explanation and Source:

Exclude any source of noise during construction or operation, e.g., engine exhaust, pile driving, traffic.)

Sources of noise include potential partial demolition and potential pile driving on site during the construction phase and continued vehicle access during operation of the new development.

2. Are there any sensitive receptors (e.g., hospitals, schools, residential areas) which would be affected by any noise caused by the project? Yes _____ No X

Explanation and Source:

See explanation at G.2.

I. Solid Waste

1. Might the project generate solid waste? Yes X No

Explanation and Source:

(Estimate types and approximate amounts of waste materials generated. e.g., industrial, domestic, hospital, sewage sludge, construction debris from demolished structures.)

Solid waste will be generated by potential office, hotel, exhibition and restaurant users and will be handled through contract for disposal. Disposal of construction debris from roof replacement and potential selective demolition will be the responsibility of the developer and contractors under agreement with Massport.

J. Aesthetics

1. Might the project cause a change in the visual character of the project area or its environs?

Yes X No

Explanation and Source: The Pier is currently in deteriorating condition. The roof needs full replacement, portions of the facade have been poorly renovated, some substructural work is needed and the stone facing on the headhouse is deteriorating. Fender piles along the apron will also need to be replaced. Consequently, redevelopment of the Pier will provide an opportunity for restoration of the 1912 Beaux Arts Headhouse and the facades of the Pier sheds as well. Design of the long facade to accommodate new interior uses and restoration of the headhouse will be subject to careful historic review.

2. Are there any proposed structures which might be considered incompatible with existing adjacent structures in the vicinity in terms of size, physical proportion and scale, or significant differences in land use?

Yes No X

Explanation and Source:

The structure and views of the structure are anticipated to remain essentially the same. Any demolition of portions of one of the three shed structures is anticipated to be interior to the site. Construction of new structures within the site, if any, will be sensitive to the proportion and scale of the existing structure.

3. Might the project impair visual access to waterfront or other scenic areas? Yes No X

Explanation and Source:

No change in visual access to the waterfront is anticipated.

K. Wind and Shadow

1. Might the project cause wind and shadow impacts on adjacent properties? Yes No X

Explanation and Source:

No new construction with wind or shadow effects on adjacent properties is anticipated. In addition to the considerable distance from surrounding structures, any new building on Commonwealth Pier will be subject to FAA height limitations.

IV. CONSISTENCY WITH PRESENT PLANNING

- A. Describe any known conflicts or inconsistencies with current federal, state and local land use, transportation, open space, recreation and environmental plans and policies. Consult with local or regional planning authorities where appropriate.

The proposed development is consistent with Massport plans for port development.
No conflicts with any other existing plans are known at this time.

V. FINDINGS AND CERTIFICATION

- A. The notice of intent to file this form has been/will be published in the following newspaper(s) :

(Name) South Boston Tribune (Date) 5/29/81
Boston Globe

- B. This form has been circulated to all agencies and persons as required by Appendix B.

5/21/81 Thomas M. Galvin *Thomas M. Galvin*
 Date Signature of Responsible Officer
 or Project Proponent

Thomas M. Galvin,
 Name (print or type)
Massachusetts Port Authority
 Address 99 High Street
Boston, Mass. 02110
 Telephone Number 482-2930

 Date Signature of person preparing ENE
 (if different from above)

 Name (print or type)
 Address _____

 Telephone Number _____





The Commonwealth of Massachusetts
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, Massachusetts 02202

EDWARD J. KING
GOVERNOR

JOHN A. BEWICK
SECRETARY

CERTIFICATE OF THE SECRETARY OF ENVIRONMENTAL AFFAIRS

ON

ENVIRONMENTAL NOTIFICATION FORM

PROJECT NAME: Commonwealth Pier Five - Mixed Use Development

PROJECT LOCATION: Boston

EOEA NUMBER: 4133

PROJECT PROPONENT: Massachusetts Port Authority

DATE NOTICED IN MONITOR: June 22, 1981

Pursuant to M.G.L., Chapter 30, Section 62A, and Section 10.04(9) of the Regulations Governing the Implementation of the Massachusetts Environmental Policy Act, I hereby determine that the above referenced project does require an Environmental Impact Report.

DATE

7-22-81

JOHN A. BEWICK, SECRETARY

Samuel A. Whigall for



The Commonwealth of Massachusetts
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, Massachusetts 02202

EDWARD J. KING
GOVERNOR

JOHN A. BEWICK
SECRETARY

DETERMINATION OF THE SECRETARY OF ENVIRONMENTAL AFFAIRS

OF

SCOPE AND ALTERNATIVES

FOR

ENVIRONMENTAL IMPACT REPORT

PROJECT NAME:	Commonwealth Pier Five - Mixed Use Development
PROJECT LOCATION:	Boston
EOEA NUMBER:	4133
PROJECT PROPONENT:	Massachusetts Port Authority
DATE NOTICED IN MONITOR:	June 22, 1981

Pursuant to Massachusetts General Laws, Chapter 30, Section 62A, and Section 10.04(1) of the Regulations Governing the Implementation of the Massachusetts Environmental Policy Act, I hereby issue the attached determination of scope and alternatives for the Environmental Impact Report on the above referenced project.

SCOPE OF ISSUES

1. Traffic

- a. The minimal study area should include the project site, and critically impacted areas particularly the Central Artery from High Street and Northern Avenue to Southamptton Street, and including any potential traffic impacts on South Boston residential areas. Local streets would include Northern Avenue, Congress Street, Summer Street, West Fourth Street and Andrew Square.

- b. The traffic data should include: Existing traffic volumes and description of duration and extent of any current traffic problems in the study area.

Traffic data should include daily volumes, as well as peak AM and PM periods.

Projected base (background) traffic volumes for the design year (c. 1985) of the project, including the Naval Annex development and an allowance for reasonable traffic growth in the area from Massport and other developments which are very imminent for the 1981-85 period.

Projected traffic volumes with developed Commonwealth Pier 5.

- c. Intersections, weaves, merges and ramps should be evaluated for traffic capacity and extent of congestion. The relationship between existing and projected traffic volumes or demand should be clearly stated in quantitative terms.
- d. Parking: existing and proposed conditions.
- e. Mass transit access or other forms of reduced volumes of individual vehicles in the area; other mitigating measures to reduce peak period traffic generation. Options for water access by ferry or private boats, to South Station, Long Wharf, Bowes Wharf, or other locations.

2. Air Pollution

An air pollution assessment using the nomograph method and existing data on background Carbon Monoxide levels should be adequate, when used in conjunction with traffic data.

3. Historical

A description of the building history and National Register status and the implications for development should be included. The Free Trade Zone designation and its implications for development should be discussed.

4. Maritime Activities

The EIR should contain a description of past and present maritime activities at the site. Each development option should include an analysis of the opportunities to include additional maritime uses as part of the project.

5. Public Access

The EIR should describe the existing levels of public access to Commonwealth Pier, and adjacent harbor front areas. The need for increasing public access should be reviewed. Different design configurations promoting pedestrian access to the water should be examined as a part of each development alternative.

6. Public Utilities

- A review of available water and sewer lines and capacities should be part of the EIR, as well as proposals to improve or compensate for any adverse conditions resulting from the development.

ALTERNATIVES

1. The No-Build alternative for comparison (including repairs to maintain existing activities.
2. The proposed development option described in the ENF.
3. At least one alternative which emphasizes different building massing and stresses greater maritime activities and public access to the Waterfront.
4. (Optional) Any variation or modification to the original proposal which the proponent wishes to include.

The draft report should include a copy of this scope, as well as the Environmental Notification Form, and should be circulated to all parties involved in the scoping process to date.

SGM:SK:jc

DATE

7 / 22 / 81


JOHN A. BEWICK, SECRETARY

Certificate on the Draft EIR



The Commonwealth of Massachusetts
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, Massachusetts 02202

EDWARD J. KING
GOVERNOR
JOHN A. BEVICK
SECRETARY

CERTIFICATE OF THE SECRETARY OF ENVIRONMENTAL AFFAIRS

ON

DRAFT ENVIRONMENTAL IMPACT REPORT

PROJECT NAME: Commonwealth Pier 5
PROJECT LOCATION: Boston
EOEA NUMBER: 4133
PROJECT PROPONENT: Massport
DATE NOTICED IN MONITOR: July 8, 1982

The Secretary of Environmental Affairs herein issues a statement that the Draft Environmental Impact Report submitted on the above referenced project does adequately and properly comply with Massachusetts General Laws, Chapter 30A, Section 62-62H inclusive, and the regulations implementing MEPA.

TRAFFIC

The MEPA staff analysis of the traffic portion of the EIR is still in preparation, and will be forwarded to Massport and its consultants shortly.

AIR QUALITY

The Scope suggested that nomographic assessment of air pollution impacts would be adequate. This was in error, as nomographic analysis is not appropriate for crowded urban intersections. The error was recognized by the proponent's consultants and DEQE while the DEIR was in preparation, and in June or earlier the MEPA office advised Massport that computer monitoring acceptable to DEQE would in fact be required.

The proponent and DEQE have agreed upon appropriate analysis, and this office approves of the interesections selected (see comments). Modelling results will be included in the Final EIR. If any exceedances of NAAQS are projected, mitigating measures to correct them must be evaluated.

PUBLIC ACCESS

In comments on the ENF, the Coastal Zone Management Program requested public walkways around the outer edges of the Pier. Similar concerns for public access were raised by MAPC and the City of Boston, and the Scope called for examination of design configurations promoting pedestrian access to the waterfront.

The Draft EIR gave a weak and conditional response to these concerns. No reason has been given why full and free pedestrian access cannot be totally compatible with the "functions" of the apron which are vaguely referred to on p. 89. Page 90 suggests that matters of public access should be worked out during design stages. The issue is too important to be left for later; the Final EIR should contain a sound public access plan so that reviewing agencies may ascertain that the project will enhance waterfront access.

HOTEL

The ENF proposed 100 rooms of 2-story hotel space on 80,000 square feet. The BOSCOM proposal would contain a 500-room hotel, occupying 316,000 square feet of space. The DEIR contains inadequate information on the height and massing of the hotel -- p. 31 suggests that the hotel will be lower than the headhouse; the model depicted on p. 30 suggests otherwise.

This office believes that the scale, and especially the height, of new construction on Boston's waterfront must be carefully controlled to preserve the character of the city. Repetitions of Harbour Towers would be most unfortunate, and the elimination from Massport's proposal of the 14-story office tower is a good thing. However, as observed by the proposed developers of Piers 1, 2, & 3, the 100-room hotel which was scoped has mushroomed to a 500-room hotel, and the proposed restaurant space could exceed by a factor of 2 1/2 the size of Anthony's Pier 4. This suggests that these uses are no longer ancillary to the trade mart, but are becoming a dominant aspect of the project. The Final EIR should go into greater detail on the hotel/restaurant proposal. What percentage of rooms will be planned for trade mart purposes? Will they be restricted to such purposes? Will the hotel be open to the public? In addition, the Final EIR should propose height limitations for the hotel, and clarify whether the West Elevation, p. 31, is intended to show the maximum scale of the structure.

MARITIME USES; FOREIGN TRADE ZONE

Several comments on the ENF stressed the importance of maritime uses for the pier. While Massport has provided for the uses which currently exist, it is important that development of the pier -- particularly structural work done, and the terms of the lease to FMR -- preserve opportunities for expansion of maritime uses, should further demand develop.

Despite a number of comments and Massport's initial proposal for development, the BOSCOM project does nothing to capitalize on the designation of the pier as

a Foreign Trade Zone. Massport has done little to exploit the present designation (40,000 s.f. of warehousing is the only FTZ activity), and there is no reason to believe that BOSCOM would be able to put to use the FTZ status, despite the supposition put forward on p. 86. The FEIR should confirm this unfortunate conclusion, or demonstrate otherwise.

IMPACT ON AIR SPACE

Due to the importance of the issues raised by the Mass. Aeronautics Commission, the Final EIR should address them. (Had MAC commented on the ENF, these issues would have been included in the Scope).

NOISE

The expansion of the hotel component of the project warrants expansion of the issues scoped, to include noise. At the August 2 briefing (at which all conversation frequently had to be halted as planes took off on Runway 27) the statement was made that Runway 27 use is heaviest during the summer months. This we understand to be incorrect.

The Final EIR should present data, by month, on average daily number of Runway 27 departures. It should present external Lmax noise levels during Runway 27 departures at the apron and headhouse ends of Pier 5. In addition, it should discuss noise-proofing techniques and specifications both for the hotel and for the trade mart, and predict what reduction in Lmax may be expected from each, at various levels within the building(s). The FEIR should briefly discuss whether and how orientation of the hotel would be expected to affect interior noise levels.

DATE

August 16, 1982

JOHN A. BEWICK, SECRETARY

Samuel Gifford Bryant

JAB:SGM:cg

STAFF REPORT ON TRAFFIC IMPACTS :

COMMONWEALTH PIER 5 DEVELOPMENT (Draft EIR)

Prepared by Stephen H. Kaiser,
Principal Civil Engineer
MEPA Unit August 1982

The analysis of traffic-related impacts in the area of Commonwealth Pier in South Boston is generally responsive to the MEPA scope, except in two instances. While a comprehensive description of traffic generation from development in the area over the period 1982-1987 is included, any allowance for development at South Station is not included in the analysis. In fairness to the proponent, the documentation for the various proposals at South Station is in a shambles, with no single document indicating how much traffic will be generated from the numerous elements of the overall development. Total South Station traffic projections developed in past years have suffered from a lack of substantiating documentation, and from numerous changes in the development/parking packages which have made the traffic documentation effectively obsolete.

To correct the situation, the Boston Redevelopment Authority, which has overall planning responsibility for the South Station area, should provide information to Massport and its consultants, so that the amount of 1987 traffic generation from South Station alone can be assessed. At a minimum, the reader should have this information to assist in evaluating the significance of the Draft EIR traffic analyses including or excluding the effects of South Station development.

While some of the traffic from the South Station garage and bus station will be utilizing ramp connections to the Central Artery and Southeast Expressway, other traffic movements will be required to use surface streets. Furthermore, heavy pedestrian traffic to and from South station will affect the traffic signal time available for surface traffic flow.

The second major omission is the failure to consider the effects of traffic growth on the Central Artery, despite the specific wording of the scope : "The minimal study area should include ... critically impacted areas, particularly the Central Artery from High Street and Northern Avenue to Southampton Street." This analysis was not included in the Draft EIR. Because the Central Artery includes the key flow constraints (or bottlenecks) in the system, this omission is significant. The Final EIR must deal with the traffic growth impacts on the Central Artery.

Several improvements to the roadway system are listed in Figure A-14 on page 145. Do any of them have any effect on traffic flow, particularly in dealing with traffic bottlenecks?



The Commonwealth of Massachusetts
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, Massachusetts 02202

EDWARD J. KING
GOVERNOR

JOHN A. BEWICK
SECRETARY

MEMORANDUM

TO: Karen Alschuler

FROM: Sam Mygatt *Sam*

FROM: Steve Kaiser *SK*

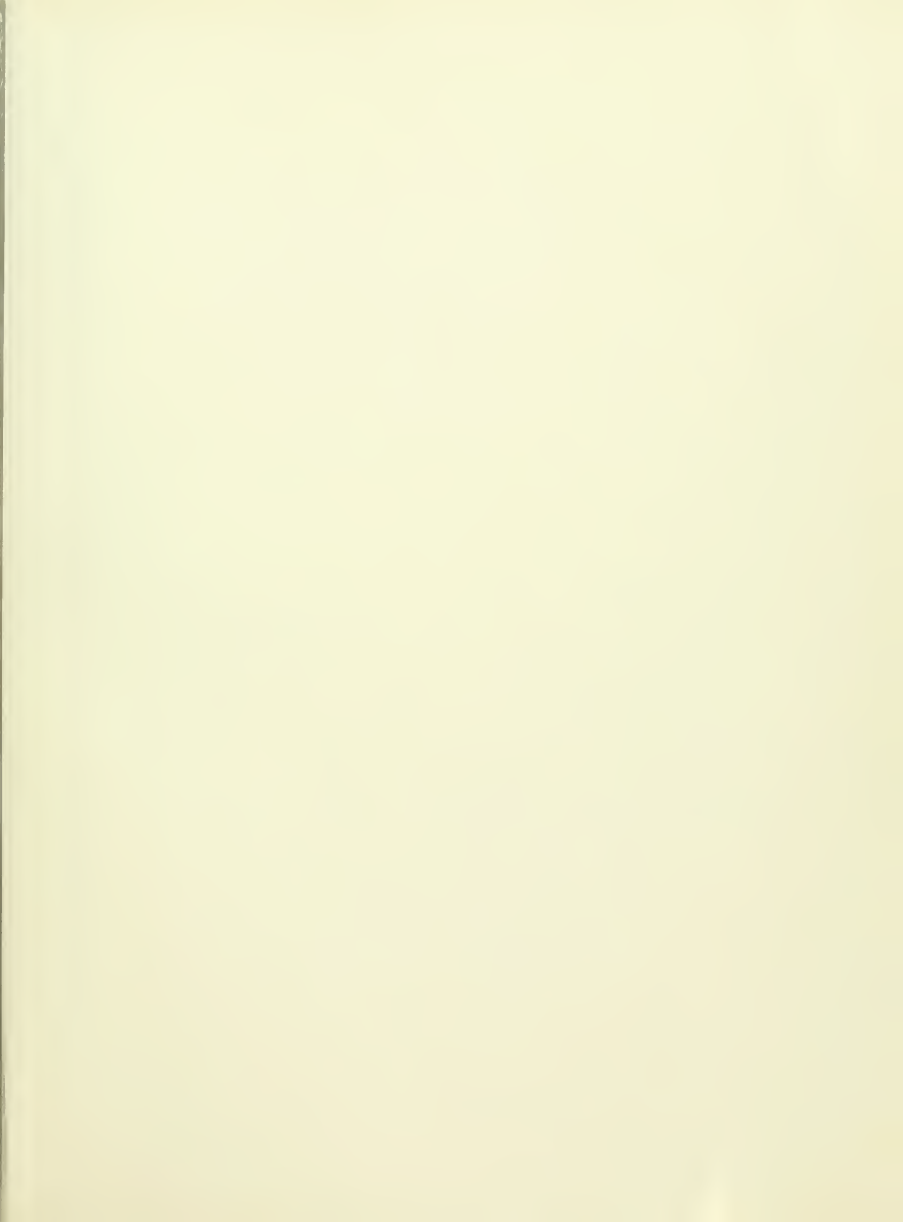
DATE: September 1, 1982

SUBJECT: Additional Traffic analysis relative to Final EIR
for Commonwealth Pier 5 (EOEA # 4133)

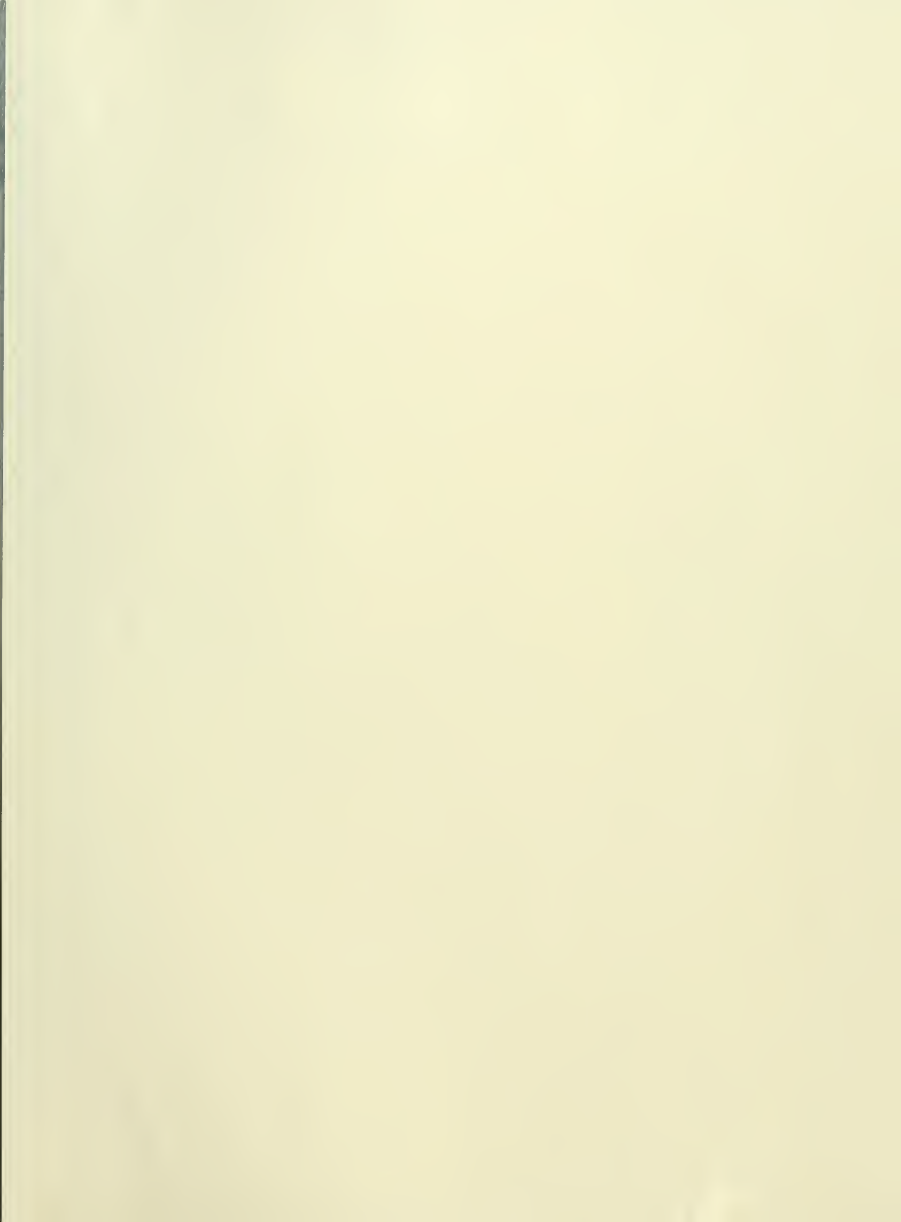
In the MEPA comments on the Draft EIR for Commonwealth Pier, we noted that the original scope for the study area included the Central Artery, yet the report considered only the adjacent intersections, not traffic on the Artery itself. When this discrepancy was pointed out, MassPort and the consultants wondered whether they would be required to do an extensive study of the Central Artery. After further discussion of the nature of traffic problems around the Northern Avenue/South Station area, I feel the following clarifications are in order :

1. The traffic impacts on the Central Artery should be summarized by indicating the existing and future volumes on the artery and its ramps, based on available data and forecasts included in the draft EIR.
2. The various ramps should be described in terms of their current queuing and the likely effect on queues resulting from future growth. The nature of the traffic bottlenecks should be described : whether ramps or intersections providing access to ramps would be the key controls on traffic flow.
3. The effect of traffic growth may take the effect of directly increased queuing or on diversions of traffic to other routes. The report should assess the most likely traffic response and congestion result. Where some uncertainty in estimates occurs, a range of results could be cited.

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